

**MODIFIED**  
**AUTHORIZATION TO DISCHARGE UNDER THE**  
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act, as amended, 33 U.S.C. §§ 1251 et seq. (the “CWA”), and the Massachusetts Clean Waters Act, as amended, M.G.L. Chap. 21, §§ 26-53,

**ExxonMobil Oil Corporation**

is authorized to discharge from a facility located at

**ExxonMobil Everett Terminal**  
**52 Beacham Street**  
**Everett, MA 02149**

to receiving water named

**Island End River/Mystic River Watershed (MA71)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit was originally signed on September 29, 2008 and became effective on January 1, 2009 (“2009 Permit”), to the extent described in the Notice of Uncontested and Severable Conditions, dated November 20, 2008, issued by the Regional Administrator of Region 1 of the United States Environmental Protection Agency (“Notice”). The 2009 Permit superseded the prior permit issued on March 6, 2000, to the extent described in the Notice.

The modifications to this permit, contained herein, shall become effective on the first day of the calendar month immediately following 60 days after signature.

This permit and the authorization to discharge shall expire at midnight on **January 1, 2014**.

This permit consists of 15 pages in Part I, including effluent limitations and monitoring requirements, 25 pages in Part II, including General Conditions and Definitions, and 10 pages in Attachment A, Marine Acute Toxicity Test Procedure and Protocol.

Signed this 12<sup>th</sup> day of October, 2011

**/S/SIGNATURE ON FILE**

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Stephen S. Perkins, Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Boston, MA

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David Ferris, Director  
Massachusetts Wastewater Management Program  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

NPDES Permit No. MA0000833

## PART I

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

#### 1. Definitions

- a. *Conventional oil water separator* refers to the secondary gravity-type separator in the ExxonMobil Everett Terminal treatment works.
- b. *Continuous treatment system* refers to the treatment system that is designed to remove pollutants from dry weather and stormwater flows up to its design capacity of 280 gpm in the ExxonMobil Everett Terminal treatment works.
- c. *Corrugated plate separator* refers to the main separator with a design capacity of 4,000 gpm in the ExxonMobil Everett Terminal treatment works.
- d. *Minimum Level (ML)* shall mean the level at which the entire analytical system gives recognizable mass spectra and/or acceptable calibration points. This level corresponds to the lowest point at which the calibration curve is determined based on analyses for the pollutant of concern in reagent water. The ML for a gas chromatographic-mass spectrometry method or inductively coupled plasma-mass spectrometry method is based on both mass spectra and acceptable calibration points. The ML for methods that do not use mass spectrometry for pollutant confirmation and/or have no published ML in the method documentation is based on the method detection limit (MDL) and minimum level (ML) determinations as described in Section 9.3.1.1 of "Protocol for EPA Approval of New Methods for Organic and Inorganic Analysis in Wastewater and Drinking Water" (EPA 821-B-98-003, March 1999).
- e. *"10-year 24-hour precipitation event"* shall mean a rainfall event with a probable recurrence interval of once in ten years. This information is available from National Oceanic & Atmospheric Administration, U.S. Department of Commerce. The 10-year 24-hour rainfall in Boston is estimated at 4.6 inches [Figure 2, Natural Resources Conservation Service Technical Release 55 (TR-55) - Urban Hydrology for Small Watersheds (1986)].

2. During the period beginning from the effective date and lasting through expiration, the permittee is authorized to discharge corrugated plate separator effluent from **Serial Number Outfall 01A** to the culvert at Island End River. The discharge is comprised of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water, truck wash water, effluent pond water and continuous treatment system filter backwash water. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>(1)</sup>	
		Average Monthly	Maximum Daily	Measurement Frequency <sup>(2)</sup>	Sample Type
Flow Rate <sup>(3)</sup>	MGD	Report	Report	Continuous	Meter
Total Suspended Solids (TSS)	mg/l	30	100	1/Month	Grab
Oil and Grease (O&G)	mg/l	----	15	1/Month	Grab
pH <sup>(4)</sup>	S.U.	----	6.5 to 8.5	1/Month	Grab
Available Cyanide <sup>(5)</sup>	µg/L	----	Report	Quarterly	Grab
Total Mercury <sup>(6)</sup>	µg/L	----	Report	Quarterly	Grab
<b>Polycyclic Aromatic Hydrocarbons (PAHs) <sup>(7)(8)</sup></b>					
Group I:					
Benzo(a)anthracene	µg/L	----	0.031	Quarterly	Grab
Benzo(a)pyrene	µg/L	----	0.031	Quarterly	Grab
Benzo(b)fluoranthene	µg/L	----	0.031	Quarterly	Grab
Benzo(k)fluoranthene	µg/L	----	0.031	Quarterly	Grab
Chrysene	µg/L	----	0.031	Quarterly	Grab
Dibenzo(a,h)anthracene	µg/L	----	0.031	Quarterly	Grab
Indeno(1,2,3-cd)pyrene	µg/L	----	0.031	Quarterly	Grab
Group II:					
Acenaphthene	µg/L	----	0.031	Quarterly	Grab
Acenaphthylene	µg/L	----	0.031	Quarterly	Grab
Anthracene	µg/L	----	0.031	Quarterly	Grab
Benzo(ghi)perylene	µg/L	----	0.031	Quarterly	Grab
Fluoranthene	µg/L	----	0.031	Quarterly	Grab
Fluorene	µg/L	----	0.031	Quarterly	Grab
Naphthalene	µg/L	----	0.031	Quarterly	Grab
Phenanthrene	µg/L	----	0.031	Quarterly	Grab
Pyrene	µg/L	----	0.031	Quarterly	Grab
Total PAHs	µg/L	----	50	Quarterly	Grab
<b>Volatile Organic Compounds (VOCs)</b>					
Benzene	µg/L	----	40	Quarterly	Grab
Toluene	µg/L	----	Report	Quarterly	Grab
Ethylbenzene	µg/L	----	Report	Quarterly	Grab
Total Xylenes	µg/L	----	Report	Quarterly	Grab
Ethanol	µg/L	----	Report	Quarterly	Grab
Methyl Tertiary-Butyl Ether (MTBE) <sup>(9)</sup>	µg/L	----	Report	Quarterly	Grab

**Footnotes:**

1. All sampling shall be representative of the effluent that is discharged through outfall 01A to the culvert at Island End River. All samples shall be analyzed using the analytical methods found in 40 CFR Part 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR Part 136. Total Xylenes and MTBE can be analyzed using EPA Method 602. Ethanol can be analyzed using EPA Method 1671.
2. Sampling frequency of 1/month is defined as the sampling of one (1) significant rain event in each calendar month. Monthly sampling is only required if there is discharge from outfall 01A during a calendar month. Sampling frequency of quarterly is defined as the sampling of one (1) event in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Quarterly sampling shall be performed concurrently with the monthly monitoring event.** The permittee shall submit to EPA and MassDEP the results of any additional testing of the parameters established for outfall 01A if conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR § 122.41(l)(4)(ii).
3. For Flow Rate, the permittee shall report the maximum daily flow rate of water discharged by the facility during the reporting period. The maximum daily flow rate, which is to be measured in the units of millions of gallons per day (MGD), shall be based upon the totalizer flow results or an approved equivalent flow measuring device.
4. See Part I.A.6., Page 9.
5. Available cyanide shall be analyzed using a detection limit less than or equal to 2.0 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the available cyanide detection limit, the permittee may submit a written request to EPA for approval to eliminate required testing for available cyanide. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the available cyanide testing requirement eliminated.
6. Total mercury shall be analyzed using a detection limit less than or equal to 2.0 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the total mercury detection limit, the permittee may submit a written request to EPA for approval to eliminate required testing for total mercury. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the total mercury testing requirement eliminated.
7. Compliance/non-compliance for Polycyclic Aromatic Hydrocarbons (PAHs) for discharges at outfall 01A shall be 10 µg/l for individual PAHs.
8. Analytical methods used to measure PAHs shall use minimum levels no greater than the minimum levels identified in Part I.A.20 on page 10.
9. MTBE shall be analyzed using a minimum level less than or equal to 5 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the MTBE minimum level, the permittee may submit a written request to EPA for approval to eliminate required testing for MTBE. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the MTBE testing requirement eliminated.

3. During the period beginning from the effective date and lasting through expiration, the permittee is authorized to discharge conventional oil water separator effluent from **Serial Number Outfall 01B** to the culvert at Island End River. The discharge is comprised of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water, truck wash water and effluent pond water. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>(1)</sup>	
		Average Monthly	Maximum Daily	Measurement Frequency <sup>(2)</sup>	Sample Type
Flow Rate <sup>(3)</sup>	MGD	Report	Report	Continuous	Meter
Total Suspended Solids (TSS)	mg/l	Report	Report	Each Discharge	Grab
Oil and Grease (O&G)	mg/l	----	Report	Each Discharge	Grab
pH <sup>(4)</sup>	S.U.	----	Report	Each Discharge	Grab

**Footnotes:**

1. All sampling shall be representative of the effluent that is discharged through outfall 01B to the culvert at Island End River. All samples shall be analyzed using the analytical methods found in 40 CFR Part 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR Part 136.
2. A "Discharge Event" is defined as single or multiple discharges associated with a precipitation event. A discharge event will end after 72-hours have elapsed since the previous storm event. The permittee shall record the date and duration (in hours) of the discharge event(s) sampled, daily rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, and the end of the previous measurable (greater than 0.1 inch rainfall) storm event. The permittee shall submit to EPA and MassDEP the results of any additional testing of the parameters established for outfall 01B if conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR § 122.41(l)(4)(ii).
3. For Flow Rate, the permittee shall report the maximum daily flow rate of water discharged by the facility during the reporting period. The maximum daily flow rate, which is to be measured in the units of millions of gallons per day (MGD), shall be based upon the totalizer flow results or an approved equivalent flow measuring device.
4. See Part I.A.6., Page 9.

4. During the period beginning from the effective date and lasting through expiration, the permittee is authorized to discharge continuous treatment system effluent from **Serial Number Outfall 01C** to the culvert at Island End River. The discharge is comprised of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water, truck wash water, effluent pond water, and continuous treatment system filter backwash water. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>(1)</sup>	
		Average Monthly	Maximum Daily	Measurement Frequency <sup>(2)</sup>	Sample Type
Flow Rate <sup>(3)</sup>	MGD	Report	Report	Continuous	Meter
Total Suspended Solids (TSS)	mg/l	30	100	1/Month	Grab
Oil and Grease (O&G)	mg/l	----	5	1/Month	Grab
pH <sup>(4)</sup>	S.U.	----	6.5 to 8.5	1/Month	Grab
Available Cyanide <sup>(5)</sup>	µg/L	----	Report	Quarterly	Grab
<u>Metals</u>					
Total Aluminum	mg/L	----	Report	Quarterly	Grab
Total Cadmium	mg/L	----	Report	Quarterly	Grab
Total Chromium	mg/L	----	Report	Quarterly	Grab
Total Copper	mg/L	----	Report	Quarterly	Grab
Total Lead	mg/L	----	Report	Quarterly	Grab
Total Mercury <sup>(6)</sup>	mg/L	----	Report	Quarterly	Grab
Total Nickel	mg/L	----	Report	Quarterly	Grab
Total Zinc	mg/L	----	Report	Quarterly	Grab
<u>Whole Effluent Toxicity (WET)<sup>(7,8)</sup></u>					
LC <sub>50</sub>	%	----	>50	2/year	Grab
Total Solids	mg/L	----	Report	2/year	Grab
Ammonia	mg/L	----	Report	2/year	Grab
Total Organic Carbon	mg/L	----	Report	2/year	Grab

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>(1)</sup>	
		Average Monthly	Maximum Daily	Measurement Frequency <sup>(2)</sup>	Sample Type
<u>Polycyclic Aromatic Hydrocarbons (PAHs)<sup>(9)</sup></u>					
Group I:					
Benzo(a)anthracene	µg/L	----	0.018	1/Month	Grab
Benzo(a)pyrene	µg/L	----	0.018	1/Month	Grab
Benzo(b)flouranthene	µg/L	----	0.018	1/Month	Grab
Benzo(k)fluoranthene	µg/L	----	0.018	1/Month	Grab
Chrysene	µg/L	----	0.018	1/Month	Grab
Dibenzo(a,h)anthracene	µg/L	----	0.018	1/Month	Grab
Indeno(1,2,3-cd)pyrene	µg/L	----	0.018	1/Month	Grab
Group II:					
Acenaphthene	µg/L	----	0.031	1/Month	Grab
Acenaphthylene	µg/L	----	0.031	1/Month	Grab
Anthracene	µg/L	----	0.031	1/Month	Grab
Benzo(ghi)perylene	µg/L	----	0.031	1/Month	Grab
Fluoranthene	µg/L	----	0.031	1/Month	Grab
Fluorene	µg/L	----	0.031	1/Month	Grab
Naphthalene	µg/L	----	0.031	1/Month	Grab
Phenanthrene	µg/L	----	0.031	1/Month	Grab
Pyrene	µg/L	----	0.031	1/Month	Grab
<u>Volatile Organic Compounds (VOCs)</u>					
Benzene	µg/l	----	5	1/Month	Grab
Toluene	µg/l	----	Report	1/Month	Grab
Ethylbenzene	µg/l	----	Report	1/Month	Grab
Total Xylenes	µg/l	----	Report	1/Month	Grab
BTEX <sup>(10)</sup>	µg/l	----	100	1/Month	Grab
Methyl Tertiary-Butyl Ether (MTBE) <sup>(11)</sup>	µg/l	----	70	1/Month	Grab

**Footnotes:**

1. All sampling shall be representative of the effluent that is discharged through outfall 01C to the culvert at Island End River. All samples shall be analyzed using the analytical methods found in 40 CFR Part 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR Part 136. Total Xylenes and MTBE can be analyzed using EPA Method 602.
2. Sampling frequency of 1/month is defined as the sampling of once each calendar month. Sampling frequency of quarterly is defined as the sampling of one (1) event in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Quarterly sampling shall be performed concurrently with the monthly monitoring event.** The permittee shall submit to EPA and MassDEP the results of any additional testing of the parameters established for outfall 01C if conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).
3. For Flow Rate, the permittee shall report the maximum daily flow rate of water discharged by the

facility during the reporting period. The maximum daily flow rate, which is to be measured in the units of millions of gallons per day (MGD), shall be based upon the totalizer flow results or an approved equivalent flow measuring device.

4. See Part I.A.6, Page 9.
5. Available cyanide shall be analyzed using a detection limit less than or equal to 2.0 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the available cyanide detection limit, the permittee may submit a written request to EPA for approval to eliminate required testing for available cyanide. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the available cyanide testing requirement eliminated.
6. Total mercury shall be analyzed using a detection limit less than or equal to 2.0 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the total mercury detection limit, the permittee may submit a written request to EPA for approval to eliminate required testing for total mercury. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the total mercury testing requirement eliminated.
7. LC50 (Lethal Concentration 50 Percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate. The limit is considered to be a maximum daily limit.
8. The permittee shall conduct 48-Hour Static Acute Whole Effluent Toxicity (WET) test on effluent samples from Outfall 01C two times a year, in March and September, using one specie, Mysid Shrimp (*Americamysis Bahia*, formerly known as *Mysidopsis Bahia*) and following the protocol in Attachment A (Marine Acute Toxicity Test Procedure and Protocol dated September 1996), provided, however, that in lieu of the method referenced in Part II of Attachment A, the permittee shall use EPA Method 2007.0 as identified in 40 CFR Part 136. Toxicity test results are to be submitted within 30 days after the sampling date with the routine Discharge Monitoring Reports (DMRs). Results of wet chemistry analyses conducted on WET test samples may be submitted to meet quarterly metals monitoring requirements. In that case, metals data would be submitted in the discharge monitoring report and in the WET test written report.
9. Compliance/non-compliance for Polycyclic Aromatic Hydrocarbons (PAHs) for discharges at outfall 01C will be based on the minimum level (ML) of analysis, as defined in Part 1.A.1. See Part I.A.20, Page 10 for the required MLs.
10. BTEX shall be reported as the sum of the detectable concentrations of benzene, toluene, ethylbenzene and xylenes.
11. MTBE shall be analyzed using a minimum level less than or equal to 5 µg/l. After submitting ten (10) consecutive quarterly sampling results that are each below the MTBE minimum level, the permittee may submit a written request to EPA for approval to eliminate required testing for MTBE. The permittee is required to continue testing for this pollutant at the frequency specified in the permit until notice is received by certified mail from EPA that the permittee's request has been approved and the MTBE testing requirement eliminated.



**Part 1.A. (Continued)**

5. The discharges either individually or in combination shall not cause or contribute to a violation of State Water Quality Standards of the receiving waters.
6. The pH of the effluent shall not be less than 6.5 or greater than 8.5 at any time unless these values are exceeded as a result of natural causes.
7. The discharge shall not cause objectionable discoloration of the receiving waters.
8. The discharge shall not contain a visible oil sheen, foam, or floating solids at any time.
9. The discharge shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving surface waters or which would impair the uses designated by its classification.
10. There shall be no discharge of tank bottom water and/or bilge water alone or in combination with storm water discharge or other wastewater.
11. There shall be no discharge of floor wash water from the interior of the facility maintenance garage.
12. The discharge shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their use.
13. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.
14. The permittee shall inspect, operate, and maintain the continuous treatment system, conventional oil water separator and the corrugated plate separator at the facility to ensure that the Effluent Limitations and Monitoring Requirements and other conditions contained in this permit are met. The permittee shall ensure that all components of the facility's Storm Water Pollution Prevention Plan, including those that specifically address the operation and maintenance of the separator(s) and other components of the storm water conveyance system, are complied with.
15. Chemicals (e.g., disinfecting agents, detergents, emulsifiers, etc.) and bioremedial agents including microbes shall not be added to the collection and treatment systems without prior approval by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP).
16. There shall be no discharge of any sludge and/or bottom deposits that has been physically removed from any storage tank(s), basin(s), and/or diked area(s) to the receiving waters. Examples of storage tanks and/or basins include, but are not limited to: primary catch basins, stilling basins, oil water separators, petroleum product storage tanks, baffled storage tanks collecting spills, and tank truck loading rack sumps.
17. No truck washing or hydrostatic testing shall occur during a storm event or following an overflow event or following a discharge event through outfall 01B until the potential for discharge through outfall 01B has ceased.
18. EPA may modify this permit in accordance with EPA regulations in 40 Code of Federal Regulations (CFR) § 122.62 and § 122.63 to incorporate more stringent effluent limitations, increase the frequency of analyses, or impose additional sampling and analytical requirements.
19. The appearance of any size sheen attributable to the discharge from this facility shall be reported

immediately by the permittee to the National Response Center in accordance with Section 311 of the Clean Water Act (CWA). This requirement is in addition to any reporting requirements related to EPA or MassDEP contained in this National Pollutant Discharge Elimination System (NPDES) permit.

20. PAH analysis shall include the following compounds and their respective minimum levels (as defined in part I.A.1) as identified in parenthesis for each compound. benzo(a)anthracene (<0.05 µg/L), benzo(a)pyrene (<0.05 µg/L), benzo(b)fluoranthene (<0.05 µg/L), benzo(k)fluoranthene (<0.05 µg/L), chrysene (<0.5 µg/L), dibenzo(a,h)anthracene (<0.10 µg/L), indeno(1,2,3-cd)pyrene (<0.10 µg/L), and naphthalene (5.00 µg/L), acenaphthene (<5.00 µg/L), acenaphthylene (<5.00 µg/L), anthracene (<2.0 µg/L), benzo(ghi)perylene (<0.2 µg/L), fluoranthene (<0.50 µg/L), fluorene (<0.5 µg/L), naphthalene (<5.00 µg/L), phenanthrene (<2.00 µg/L), and pyrene (<1.00 µg/L).
21. The permittee shall attach a copy of the laboratory case narrative to the respective Discharge Monitoring Report Form submitted to EPA and MassDEP for each sampling event reported. The laboratory case narrative shall include a copy of the laboratory data sheets for each analysis (identifying the test method, the analytical results, and the detection limits for each analyte) and provide a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits.
22. All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - i One hundred micrograms per liter (100 µg/l);
    - ii Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - iii Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
    - iv Any other notification level established by the Director in accordance with 40C.F.R. § 122.44(f)
  - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - i Five hundred micrograms per liter (500 µg/L);
    - ii One milligram per liter (1 mg/L) for antimony;
    - iii Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7).
    - iv Any other notification level established by the Director in accordance with 40C.F.R. § 122.44(f).
  - c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
23. Wastewater Treatment System Flow
  - a. The continuous treatment system shall be designed, constructed, maintained and operated to treat the volume of storm water, groundwater and other associated wastewaters up to and including 280 gpm through outfall 01C.

- b. The collection, storage and treatment systems shall be designed, constructed, maintained and operated to treat the total equivalent volume of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water, truck wash water, effluent pond water and continuous treatment system filter backwash water which would result from a 10-year 24-hour precipitation event, which volume shall be discharged through outfall 01C and outfall 01A. All wet weather and dry weather discharges less than or equal to the design capacity of the continuous treatment system [280 gpm] shall be treated through the continuous treatment system and discharged at outfall 01C. The flow through the corrugated plate separator shall not exceed 4,000 gpm.
- c. Discharge from outfall 01B shall be limited to situations when the combined capacity of the facility to collect, store, treat and discharge wastewater through outfalls 01A and 01C is exceeded. As a result, it is expected that discharges through outfall 01B will occur only in extreme weather events.
- d. The permittee shall certify that the facility's collection storage and treatment systems have been designed, constructed, maintained and operated to meet the requirements of this permit. The certification shall be signed in accordance with the requirements identified in 40 CFR § 122.22. A copy of this certification shall be sent to EPA and MassDEP within sixty (60) days of the effective date of the Permit.
- e. Written notification and approval by EPA and the MassDEP shall be required, should the permittee propose changes to the storm water conveyance, storage or treatment systems which have the potential to cause the maximum design flow rate through any portion of the collection, storage and treatment systems to be increased.

#### 24. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

#### 25. Hydrostatic Test Water Discharges

- a. The hydrostatic test water shall be monitored as described below and discharged through outfalls 01A and 01C to the culvert at Island End River.
- b. At a minimum, four (4) representative samples shall be taken of the hydrostatic test water: one (1) grab sample of the influent test water; and three (3) serial-grab samples of the hydrostatic test water effluent. The influent grab sample shall be taken approximately midway through the fill segment of the hydrostatic test procedure. The three (3) effluent serial-grab samples shall be taken over the duration of the entire discharge segment of the hydrostatic test procedure. The first effluent serial-grab sample shall be taken during the initial phase of discharge; the second around the midpoint; and the third near the end of the discharge. The effluent serial-grab samples shall be obtained before discharge into the treatment works and/or mixing with any storm water or other non-storm water flow.

These influent and effluent samples shall be analyzed for the following parameters:

Characteristic	Units	Sample Type
Total Suspended Solids (TSS)	mg/l	Grab
Oil and Grease (O&G)	mg/l	Grab
pH	S.U.	Grab
Dissolved Oxygen (DO)	mg/l	Grab
Total Residual Chlorine	mg/l	Grab
Benzene	µg/l	Grab
Toluene	µg/l	Grab
Ethylbenzene	µg/l	Grab
Total Xylenes	µg/l	Grab
Methyl Tertiary-Butyl Ether	µg/l	Grab
<u>PAHs</u>		
Benzo(a)anthracene	µg/l	Grab
Benzo(a)pyrene	µg/l	Grab
Benzo(b)fluoranthene	µg/l	Grab
Benzo(k)fluoranthene	µg/l	Grab
Chrysene	µg/l	Grab
Dibenzo(a,h)anthracene	µg/l	Grab
Indeno(1,2,3-cd)pyrene	µg/l	Grab
Acenaphthene	µg/l	Grab
Acenaphthylene	µg/l	Grab
Anthracene	µg/l	Grab
Benzo(ghi)perylene	µg/l	Grab
Fluoranthene	µg/l	Grab
Fluorene	µg/l	Grab
Naphthalene	µg/l	Grab
Phenanthrene	µg/l	Grab
Pyrene	µg/l	Grab

- c. Testing for total residual chlorine is only required when potable water or a similar source of water which is likely to contain a residual chlorine concentration is used for hydrostatic testing. Testing for MTBE is only required if the tank undergoing testing was recently (i.e., within three years of the proposed testing date) used to store gasoline containing MTBE.
- d. During discharge (i.e., approximately at the same time the three effluent grab samples are taken), the flow exiting the treatment system should be observed in order to prevent the inadvertent release of hydrocarbons to the receiving water(s). In the event that there is evidence of such a release (e.g., visible oil sheen and/or noticeable increase in turbidity of discharge water), the permittee shall immediately halt the discharge of hydrostatic test water and take steps to correct the problem.
- e. Any changes to these procedures must be approved by EPA and the MassDEP prior to their implementation.
- f. The permittee shall submit a letter/report to EPA and MassDEP, summarizing the results of the hydrostatic test within forty-five (45) days of completion of the test. This report shall contain: the

date(s) during which the hydrostatic testing occurred; the estimated volume of hydrostatic test water discharged; a copy of the laboratory data sheets for each analyses, providing the test method, the detection limits for each analyte, and a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits; and a comparison of the overall test results with the effluent limitations for outfall 01C in this permit.

- g. The U.S. Environmental Protection Agency shall reserve the right to re-open the permit, in accordance with 40 CFR § 122.62(a)(2), to limit hydrostatic test water discharges in the event that sampling results indicate that such discharge has a reasonable potential to cause or contribute to a violation of Massachusetts Water Quality Standards in the Island End River.

## **B. STORM WATER POLLUTION PREVENTION PLAN**

1. The permittee shall develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in storm water to the receiving waters identified in this permit. The SWPPP shall be a written document and consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.
2. The SWPPP shall be completed or updated and signed by the Permittee within 90 days after the effective date of this Permit. The Permittee shall certify that the SWPPP has been completed or updated and that it meets the requirements of the permit. The certification shall be signed in accordance with the requirements identified in 40 CFR § 122.22. A copy of this initial certification shall be sent to EPA and MassDEP within one hundred and twenty (120) days of the effective date of the Permit.
3. The SWPPP shall be consistent with the provisions for SWPPPs included in the most current version of the Multi-Sector General Permits for Storm Water Discharges Associated with Industrial Activities. (The current MSGP was issued September 29, 2008 – see 73 FR 56572). The SWPPP shall include best management practices (BMPs) for on-site activities that will minimize the discharge of pollutants in storm water to waters of the United States.
4. The SWPPP shall be prepared in accordance with good engineering practices, identify potential sources of pollution that may reasonably be expected to affect the quality of the storm water discharges, and describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit. Specifically, the SWPPP shall contain the elements listed below:
  - a. A pollution prevention team responsible for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
  - b. A site description which includes a list of activities at the facility; a site map showing drainage areas and direction of storm water flows; receiving waters and outfall location; areas of the facility where industrial materials or activities are exposed to storm water including the location of industrial activities, storage, disposal, material handling; and all structural controls.
  - c. A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.
  - d. A summary of any existing storm water discharge sampling data.
  - e. A description of all storm water controls, both structural and non-structural. BMPs must include good housekeeping measures, preventative maintenance programs, spill prevention and response procedures, runoff management practices, and proper handling of deicing materials. The SWPPP

shall describe how the BMPs are appropriate for the facility. All BMPs shall be properly maintained and be in effective operating conditions.

5. All areas of the facility where industrial materials or activities are exposed to storm water shall be inspected, at least on a quarterly basis. Inspections shall occur beginning the 1<sup>st</sup> quarter after the effective date of the permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December.
6. The permittee shall amend and update the SWPPP within 30 days for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of a reportable quantity of pollutants as described in 40 CFR Part 302; or a determination by the permittee or EPA that the SWPPP appears to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified by the Permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR § 122.22
7. The permittee shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR § 122.22. A copy of this annual certification shall be sent to EPA and MassDEP on, or before, every anniversary of the effective date of the permit. The permittee shall keep a copy of the current SWPPP and all SWPPP certifications (the initial certification, re-certifications, and annual certifications) signed during the effective period of this permit at the facility and shall make them available for inspection by EPA and MassDEP.

### **C. MONITORING AND REPORTING**

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports and evaluations required herein, shall be submitted to EPA at the following address:

U.S. Environmental Protection Agency  
Water Technical Unit (SMR-04)  
5 Post Office Square – Suite 100  
Boston, Massachusetts 02109-3912

Signed and dated Discharge Monitoring Report Form(s) and all other reports required by this permit shall also be submitted to the State at the following addresses:

Massachusetts Department of Environmental Protection  
Northeast Regional Office  
Bureau of Waste Prevention  
205 B Lowell Street  
Wilmington, MA 01887

and  
Massachusetts Department of Environmental Protection  
Division of Watershed Management  
Surface Water Discharge Permit Program  
627 Main Street, 2nd Floor  
Worcester, Massachusetts 01608

**D. STATE PERMIT CONDITIONS**

1. This Discharge Permit is issued jointly by the EPA and the MassDEP under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap.21, §43.
2. Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY****REGION I****1 CONGRESS STREET - SUITE 1100****BOSTON, MASSACHUSETTS 02114-2023****FACT SHEET**

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO  
DISCHARGE TO WATERS OF THE UNITED STATES**

**NPDES PERMIT NO: MA0000833****PUBLIC NOTICE DATE:****NAME AND ADDRESS OF APPLICANT:**

**ExxonMobil Oil Corporation  
3225 Gallow Road  
Fairfax, VA 22937**

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

**ExxonMobil Everett Terminal  
52 Beacham Street  
Everett, MA 02149**

**RECEIVING WATER: Island End River/Mystic River Watershed (MA71)****CLASSIFICATION: SB**



## TABLE OF CONTENTS

1.0	PROPOSED ACTION, TYPE OF FACILITY AND DISCHARGE LOCATION .....	4
2.0	DESCRIPTION OF DISCHARGE.....	4
2.1	Summary of Monitoring Data .....	4
3.0	RECEIVING WATER DESCRIPTION .....	5
3.1	Island End River Sediment Cleanup .....	5
4.0	PERMIT LIMITATIONS AND CONDITIONS .....	6
5.0	PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMITATION DERIVATION	6
5.1	General Requirements .....	6
5.1.1	Technology-Based Requirements .....	7
5.1.2	Water Quality-Based Requirements .....	7
5.1.3	Anti-Backsliding .....	7
5.1.4	Anti-Degradation .....	8
6.0	Explanation of Effluent Limitations .....	8
6.1	Facility Information .....	8
6.1.1	Marine Facility .....	9
6.1.2	South Tank Farm .....	9
6.1.3	North Tank Farm .....	9
6.2	Contributions to Outfall 001 in Draft Permit .....	10
6.2.1	Storm Water from the North and South Tank Farms .....	11
6.2.2	Groundwater .....	11
6.2.3	Former Effluent Pond .....	12
6.2.4	Maintenance Activities .....	12
6.2.5	Steam Condensate .....	12
6.2.6	Truck Wash Water .....	12
6.2.7	Hydrostatic Test Water .....	12
6.2.8	Marine Dock Residual Product and Storm Water .....	12
6.2.9	Treatment Works .....	12
6.3	Proposed Permit Effluent Limitations and Monitoring Requirements .....	13
6.3.1	Flow .....	14
6.3.2	Total Suspended Solids (TSS) .....	15
6.3.3	Oil and Grease .....	15
6.3.4	pH .....	16
6.3.5	Polycyclic Aromatic Hydrocarbons (PAHs) .....	16
6.3.6	Volatile Organic Compounds .....	18
6.3.7	Mercury .....	21
6.3.8	Whole Effluent Toxicity .....	21
6.4	Proposed Permit Conditions .....	21
6.4.1	Tank Bottom Wastewater .....	21
6.4.2	Maintenance Garage Floor Washings .....	22

6.4.3	Hydrostatic Test Water Discharges .....	22
6.4.4	Storm Water Pollution Prevention.....	22
7.0	ENDANGERED SPECIES ACT .....	23
8.0	ESSENTIAL FISH HABITAT .....	23
9.0	STATE CERTIFICATION REQUIREMENTS .....	24
10.0	PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION .....	24
11.0	EPA & MASSDEP CONTACTS.....	25

## References

Figure 1 – Site Locus Map

Figure 2 – North Terminal Site Plan

Figure 3 – South Terminal Site Plan

Figure 4 – Process Schematic

Attachment A - Summary of Discharge Monitoring Data

## **1.0 PROPOSED ACTION, TYPE OF FACILITY AND DISCHARGE LOCATION**

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge storm water, groundwater, steam condensate, tank bottoms, and potable water (used for garage floor washing, hydrostatic testing, truck washing, fire testing, landscape watering, and safety showers) through outfall 001 (formerly known as outfall 001A) into the Island End River following treatment in an oil/water separator (OWS). The permit was issued to the Everett Terminal of Exxon Company on March 6, 2000 (the current permit) and expired on March 6, 2005. EPA received a permit renewal application dated September 14, 2004, from ExxonMobil. Since the permit renewal application was deemed both timely and complete by EPA, the permit has been administratively continued. The current permit also authorizes the direct discharge of the same discharges without treatment during heavy rain events through outfall 001B.

The ExxonMobil Everett Terminal, which is located in Everett, Massachusetts, is engaged in the receipt, storage, and distribution of petroleum products. The spectrum of fuels handled by this facility consists of gasoline, low sulfur diesel, jet fuel, heavy oil, and fuel additives. Petroleum products are received in bulk quantities at the terminal's marine vessel dock. Product is then transferred, via aboveground piping, to aboveground storage tanks located within the facility's tank farm areas. Final distribution of product is conducted at the facility's truck loading racks.

The ExxonMobil Everett Terminal operations also include the collection and discharge of storm water from Sprague Energy, an asphalt storage and distribution facility located on property formerly owned by ExxonMobil.

All of the water discharged is collected by the facility's storm water collection system which drains to a treatment works near the eastern edge of the North Tank Farm. Discharge to the Island End River is by means of a 6-foot diameter, 1500 foot long culvert that carries water from ExxonMobil to the river. The Everett Terminal has no river frontage. The downstream end of the culvert is regularly submerged due to the tidal influences of the river. The outfall location is shown on the site locus map, Figure 1.

## **2.0 DESCRIPTION OF DISCHARGE**

The draft permit authorizes the discharge of storm water, groundwater, steam condensate, and potable water used for hydrostatic testing, truck washing, fire testing, landscape watering, and safety showers through outfall 001. All contributions to outfall 001 are collected in the facility's storm drains system and treated in an OWS prior to discharge. The discharges of tank bottoms and maintenance garage floor wash water (authorized in the current permit) are prohibited in the draft permit.

A more detailed description of each contribution to the facility discharge is provided in Section 6.0.

### **2.1 Summary of Monitoring Data**

A quantitative description of the discharge in terms of significant effluent parameters based on discharge monitoring reports (DMRs) submitted for the ExxonMobil Everett Terminal during the time period of 2002 through 2006, is included in Attachment A. This data was collected and submitted in compliance with the Current Permit

Under Section 308(a) of the Clean Water Act (CWA), EPA requested additional sampling and analysis of non-storm water flows to Outfall 001 in a letter to ExxonMobil dated April 14, 2006. This included sampling of dry weather flows (primarily groundwater infiltration) for priority pollutants, gasoline

additives and iron. Dry weather flows were sampled on July 18<sup>th</sup>, 2006.

Historical groundwater data was also considered for this permit.

### 3.0 RECEIVING WATER DESCRIPTION

The receiving water, Island End River (Boston Harbor/Mystic River Watershed/Segment MA71-03), is a small tributary to the Mystic River. The entire river is less than one-half mile long, and about 500 feet across at its widest point. The Island End River flows into the Mystic River, approximately half a mile west of the Mystic River's end in Boston Harbor. The Island End River is designated as a Class SB water body by the Commonwealth of Massachusetts.

Under Section 303(d) of the CWA, states are required to develop information on the quality of their water resources and report this information to the EPA, the U. S. Congress, and the public. In Massachusetts, the responsibility for monitoring the waters within the State, identifying those waters that are impaired, and developing a plan to bring them into compliance with the Massachusetts Water Quality Standards (314 CMR 4.0), resides with the Massachusetts Department of Environmental Protection (MassDEP). The MassDEP evaluated and developed a comprehensive list of the assessed waters and the most recent list was published in the *Massachusetts Year 2004 Integrated List of Waters* (MassDEP, April 2005). The list identifies the lower reach of the Mystic River (including Island End River) as one of the waterways within Massachusetts that is impaired. The impairment, as identified by the MassDEP, is related to the presence of the following pollutants, which were not considered to be present due to natural causes: priority organics, metals and other inorganics, unionized ammonia, organic enrichment/low dissolved oxygen, pathogens, oil and grease, taste, odor, and color.

The MassDEP is required, under the CWA, to develop a Total Maximum Daily Load (TMDL) for a water body once it is identified as impaired. A TMDL is essentially a pollutant budget designed to restore the health of a water body. A TMDL typically identifies the source(s) of the pollutant from direct and indirect discharges, determines the maximum amount of pollutant (including a margin of safety) that can be discharged to a specific water body, while maintaining water quality standards for designated uses, and outlines a plan to meet the goal. A TMDL has not yet been developed for the Island End River. In the interim, EPA has developed the conditions for this permit to ensure that the discharges will not cause or contribute to a violation of the Massachusetts water quality standards (discussed further below). Should a TMDL be developed in the future, and if that TMDL establishes a waste load allocation that would require more stringent effluent limitations for this facility, then the permit may be re-opened.

Island End River was included in the investigation of sediment quality in the Mystic River drainage basins summarized in *Sediment Quality of Lakes, Rivers, and Estuaries in the Mystic River Basin, Eastern Massachusetts, 2001 – 03* (Breault, et al., 2005). Priority pollutant polycyclic aromatic hydrocarbons (PAHs), priority pollutant metals, pesticides and PCBs were measured in sediments from 5 locations in the Island End River. Elevated PAH concentrations measured for this study were identified in sediments from Island End River and attributed to residual waste discharges from a coal gasification and coal tar processing activities on the shores of the Island End River between the 1890's and the late 1950's.

#### 3.1 Island End River Sediment Cleanup

In March of 2006, in-water construction work commenced on a major cleanup action to address coal tar contamination in sediments in the Island End River adjacent to the former coal tar processing facility site in Everett. The former coal tar processing facility site is located on the western bank of the Island End River and is currently home to the Distrigas LNG terminal, the Prolerized scrap metal yard, the

ExxonMobil oil terminal and docks, and numerous commercial warehousing and trucking operations. From the late 1800's until around 1960, the site was the home to a large coal gasification plant and coal tar processing facility. MassDEP identified three large corporations – currently Keyspan Energy (former Eastern Enterprises), Honeywell, Inc. (former Allied Chemical), and Beazer East (former Koppers Co.) – as Potentially Responsible Parties (PRPs) for the site, and eventually entered into an Administrative Consent Order with all three corporations in 1989 to compel them to clean up the site in accordance with the requirements of M.G.L. c. 21E and the Massachusetts Contingency Plan (MCP). (Roberson, 2006) The MassDEP Release Tracking Number (RTN) for the former coal tar processing facility site is 3-0309.

The remedial actions in the river, which have been planned, executed, and have nearly been completed over the course of the last five years or so, consist of three elements:

1. construction of a Confined Disposal Facility (CDF) extending outward from the west bank of the Island End River, enclosing an area of approximately 1.9 acres of the most heavily contaminated river-bottom sediments;
2. dredging of approximately 72,000 cubic yards of contaminated sediments from outside of the CDF, stabilization of the sediments by mixing them with Portland cement, and depositing most of the stabilized sediments within the CDF (with a smaller portion transported off-site for disposal at a licensed facility), and capping the CDF; and
3. implementation of a wetlands mitigation project to make up for the lost water sheet within the Island End River.

The cleanup work in the Island End River has been completed as a Remedial Abatement Measure under the MCP and will be evaluated for effectiveness by continued monitoring. The wetland mitigation plan is still in the discussion and design stage. (Roberson, 2006)

#### **4.0 PERMIT LIMITATIONS AND CONDITIONS**

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part I (Effluent Limitations and Monitoring Requirements) of the draft NPDES permit (draft permit).

#### **5.0 PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMITATION DERIVATION**

##### **5.1 General Requirements**

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. This draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable state regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions (Part II) of the draft permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i) and §122.48.

### **5.1.1 Technology-Based Requirements**

Subpart A of 40 CFR Part 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (See 40 CFR Part 125 Subpart A) to meet best practicable control technology currently available (BPT), best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA can not be authorized by a NPDES permit.

EPA has not promulgated technology-based National Effluent Guidelines for storm water or other non-sanitary discharges from petroleum bulk stations and terminals (Standard Industrial Code 5171). In the absence of technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgment (BPJ).

### **5.1.2 Water Quality-Based Requirements**

Water quality-based criteria are required in NPDES permits when EPA determines that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality standards consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards (WQS), found at 314 CMR 4.00, include these elements. The WQS limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA recommended water quality criteria, established pursuant to Section 304(a) of the CWA, be used unless a site-specific criterion is established. The Massachusetts WQS also generally prohibit toxic pollutants in toxic amounts [See Massachusetts 314 CMR 4.05(5)(e)]. EPA regulations pertaining to permit limits based upon water quality standards and state requirements include the provisions at 40 CFR §122.44(d). The effluent limits established in the draft permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

### **5.1.3 Anti-Backsliding**

Section 402(o) of the CWA provides, generally, that the effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the previous permit.

Unless certain limited exceptions are met, backsliding from effluent limitations contained in previously issued permits is prohibited. EPA has also promulgated anti-backsliding regulations, which are found at 40 CFR 122.44(l). Unless statutory and regulatory backsliding requirements are met, the limits in the reissued permit must be at least as stringent as those in the previous permit. Since none of these

requirements apply to this facility, the effluent limits in the draft permit must be at least as stringent as those in the Current Permit.

#### **5.1.4 Anti-Degradation**

The Massachusetts Surface Water Quality Standards (314 CMR 4.00, February, 1996)<sup>1</sup> establish designated uses of the State's waters, criteria to protect those uses, and an anti-degradation provision to ensure that existing uses and high quality waters are protected and maintained. They also include requirements for the regulation and control of toxic constituents and specify that EPA's recommended water quality criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site-specific criterion is established.

Section 401(a)(1) of the CWA forbids the issuance of a federal license for a discharge to waters of the United States unless the state where the discharge originates, in this case Massachusetts, either certifies that the discharge will comply with, among other things, state water quality standards, or waives certification. EPA's regulations at 40 CFR § 122.44(d)(3), §124.53 and §124.55 describe the manner in which NPDES permits must conform to conditions contained in state certifications.

The Mystic River and Island End River are classified as Class SB water bodies by the State of Massachusetts and as such, are designated as habitat for fish, other aquatic life and wildlife and for primary (e.g., wading and swimming) and secondary (e.g., fishing and boating) contact recreation. Class SB waters may also be suitable for shellfish harvesting but there are no areas within the Island End or Mystic River currently approved by the State for such use.

This draft permit is being reissued with allowable effluent limits as stringent, or more stringent, than the Current Permit and accordingly will continue to protect the existing uses of the Island End River and Mystic River.

### **6.0 EXPLANATION OF EFFLUENT LIMITATIONS**

#### **6.1 Facility Information**

The ExxonMobil Everett Terminal is a petroleum products distribution and bulk storage terminal. The facility, which comprises approximately 110 acres (including Sprague Energy), consists of a marine bulk product receiving and shipping facility, known as the Marine Facility, a light fuel (gasoline, diesel and jet fuel) storage area known as the North Tank Farm, and a heavy fuel oil and asphalt storage area known as the South Tank Farm. Figures 2 and 3 show the layouts of the North and South Tank Farms.

Sprague Energy is co-located in the South Tank Farm. ExxonMobil is responsible for storm water and any other discharges from Sprague Energy into ExxonMobil's storm water collection system. All discharges generated in the Marine Facility, the South Tank Farm, and the North Tank Farm flow to the terminal's storm drain system and collect at the treatment works located in the North Tank Farm. The treatment works includes flow distribution, oil/water separation and transfer pumping equipment, as described in section 6.2.9.

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<sup>1</sup> The Massachusetts Surface Water Quality Standards ("Massachusetts WQS") referenced in this Fact Sheet are those adopted in 1996. Massachusetts recently adopted revisions to its Standards in January 2007 and has submitted them to EPA for approval. As the revisions are not yet approved, with the exception of certain copper criteria, the 1996 version is applicable to this permit.

### **6.1.1 Marine Facility**

The Marine Facility is located at the confluence of the Island End River and the Mystic River. Petroleum product is delivered by ship or barge at the Marine Facility and transferred via aboveground piping to the storage tanks at the North and South Tank Farms. Marine vessels arrive at the three berths on the Mystic River. One of the berths (Berth #4), is currently idle. Berth #1 is a 440-foot long barge berth and Berth #3 is a tanker berth. Berths #1 and 3 are used to transfer product from marine vessels to the storage tanks in the North and South Tank Farms and to transfer product from the North and South Tank Farms to marine vessels.

At the Marine Facility, each berth is equipped with two containment areas for transfer piping and hoses. These containment areas are cleaned out by vac truck during or after rain events. The storm water is discharged at the head of the treatment works.

### **6.1.2 South Tank Farm**

#### ExxonMobil

The South Tank Farm includes 18 bunkered concrete tanks. The bunkered tanks include four tanks in active service (Tanks 221-224); one tank in fire water service (Tank 207); and thirteen tanks (Tanks 201 – 206 and 208 – 214) that are out of service. The bunkered concrete tanks in active service are partially buried concrete tanks that are internally lined with steel floors and walls and are covered with flat concrete roofs. They are surrounded by mounded soil. These tanks are used to store #6 fuel oil which is sold, exclusively, to the nearby Mystic Power electric generating facility as backup fuel. The transfer piping to the power plant is owned and operated by Mystic Power,

The South Tank Farm includes two field-erected aboveground storage tanks (ASTs) in dikes. One tank (Tank 147) is used to store diesel fuel. The second tank (Tank 146) is currently idle.

A diesel powered emergency generator with an auxiliary diesel tank is located near Tank 210. Distillate transfers for Everett Terminal use are conducted from tank trucks to the emergency generator fuel tank. Transformers and electrical starters are also located throughout the South Tank Farm.

#### Sprague Energy

The asphalt storage and distribution area within the South Tank Farm is owned and operated by Sprague Energy. This area includes aboveground storage tanks (ASTs), and asphalt loading rack and other operational equipment. Although this area was formerly part of the Exxon facility and later sold to Sprague Energy, ExxonMobil maintains responsibility for Sprague storm water and any other discharges into ExxonMobil's storm water collection system.

### **6.1.3 North Tank Farm**

The North Tank Farm is used to store light petroleum product, ethanol and fuel additives in aboveground storage tanks (ASTs), load product onto tanker trucks at a covered loading rack, store and maintain ExxonMobil's truck fleet, collect treat and discharge wastewater, and house administration offices. Product stored in the North Tank Farm consists of gasoline, distillates (heating oil, kerosene, and diesel) and additives. The North Tank Farm includes 26 product storage tanks and 7 additive tanks with a total nominal capacity of 1,785,000 barrels (75,000,000 gallons). Products stored in the North Tank Farm are



delivered to company owned and customer tank trucks via a 12-bay loading rack, with access to and from Beacham Street.

The North Tank Farm also includes a vapor recovery system (buried knockout tank and an aboveground vapor recovery unit) for emission controls on the loading rack. Transformers and electrical starters are located throughout the North Tank Farm. Satellite and central drum storage areas are located in areas of containment within the North Tank Farm. These areas store waste oils, lube oils, additives and distillates. Portable motor oil and a used oil container are located in the garage for vehicle maintenance. Used motor oil is collected in a storage tank on the north side of the garage. The North Tank Farm also includes two buried tanks; one tank for Everett Terminal heating oil and a second tank for product recovery.

Numerous transfer activities occur in the North Tank Farm. Additive transfers from tank trucks to the additive tanks occur adjacent to the additive tank dike area. Truck fueling occurs in the parking lot adjacent to the fuel dispensers. Vacuum trucks transfer oily water mixtures from tank water draw offs, to Tank 136, and transfer product from equipment drain downs back to storage tanks. Transfers of distillate used by the Everett Terminal are conducted from tank trucks to the buried heating oil tank.

## 6.2 Contributions to Outfall 001 in Draft Permit

All water collecting in storm drains and sumps around the Everett Terminal is collected at the facility's treatment works and then is discharged through Outfall 001. The various contributions, and the treatment works itself, are described in the following paragraphs. Table 1 summarizes the various contributions authorized in the draft permit and their flow volume, as estimated by ExxonMobil.

**Table 1 – Discharges to Outfall 001 Authorized in Draft Permit**

<b>Contribution to Outfall 001</b>	<b>Average Flow (MGD)</b>	<b>Components</b>
Storm Water	6.6	Rain water containing suspended solids, residual petroleum hydrocarbons from miscellaneous drips and spills of currently stored fuels
Groundwater infiltration	0.28	Groundwater containing residual contamination from current and historical releases of oil and hazardous materials
Former Effluent Pond	0.072	Groundwater containing residual contamination from historical releases of oil and hazardous materials, rainwater
Maintenance Activities	0.003	Potable water used for fire testing, landscape watering, and safety showers
Steam Condensate	0.0001	water
Truck Wash Water	0.0002	Potable water containing suspended solids, oil and grease
Hydrostatic Testing of Tanks and Piping	0.286 (intermittent)	Potable water
Marine Dock Drip Pans	0.004	Same as storm water

### **6.2.1 Storm Water from the North and South Tank Farms**

Storm water is collected from unpaved diked areas around product storage tanks. Each diked area contains a below-grade sump with lift pump to transfer collected storm water to the gravity storm sewers that lead to the treatment works. The sump pumps are manually activated after an ExxonMobil operator has inspected the storm water. If there is no product sheen visible on the storm water, the sump pump is activated. If floating product is visible, it is removed prior to transfer. The sump pumps automatically shut down on low level but do not automatically restart. Due to the large volumes of storm water collecting at the treatment works, storm water typically remains in the diked areas for two to four days following a rain event.

Storm water falling in open paved areas, building roofs, and tank roofs on the North and South Tank Farms flows by gravity to the treatment works.

The loading racks in the North and South Tanks Farms are covered with a roof. However, there are no gutters on the roof, so rainwater falling on the roof falls onto the loading rack pads. Loading rack pad catch basins drain into the storm water collection system and to the treatment works on the South Tank Farm.

### **6.2.2 Groundwater**

The flow of groundwater from Outfall 001 has been estimated by ExxonMobil at 280,000 gallons per day. This includes approximately 107,000 gallons per day (gpd) of groundwater during dry weather as estimated by the permittee based on 2005 flow records. No information is available, to date, indicating whether groundwater infiltration occurs via small leaks throughout the system or through larger, localized breaches in the storm drains.

The ExxonMobil facility has reported numerous releases of oil and hazardous materials (OHM) over many years and is currently a MassDEP listed remediation site (Release Tracking Number #3-0310) being remediated under the direction of a Licensed Site Professional (LSP). Although no permanent solution to site cleanup has been implemented, a Class C Response Action Outcome (RAO) was submitted to MassDEP on October 27, 2004. A January 2007 status report (#5) to ExxonMobil listed 8 areas of concern (AOCs) that remain on the site. Of these, three AOCs (#s 1, 4 and 8a) were described as containing light non-aqueous phase liquid (LNAPL). AOC #4 was described as "LNAPL at Miscellaneous Areas – North and South Tank Farm". AOC #s 1 and 8a were identified as the loading rack area and the area around the Mass Pipeline (MPL), respectively, in the North Tank Farm. So far, LNAPL removal has been limited to passive removal of LNAPL from wells in these AOCs.

Contaminated groundwater infiltration into the collection system contributes a constant flow of oil to the treatment works. Oil is skimmed off of the oil/water separator at least daily. In this sense, the storm drains and treatment works are operating as a de facto groundwater collection and treatment system. The site assessment for the facility conducted under the Massachusetts Contingency Plan (MCP) and dated November 12, 1996 credits the storm water collection system with creating "low spots in the water table" which cause oil and hazardous materials (OHM) dissolved in groundwater to migrate to the central portion of the site towards the sumps thereby preventing off site migration through the soil column. This same Site Assessment reported that "OHM dissolved in groundwater is likely not migrating off this site while the facility pumping is maintained". During a March 2006 site visit to ExxonMobil, LSP John A. Thomson reiterated that the hydraulic influence of the storm water collection sumps creates a groundwater gradient away from the property lines and towards the sumps. ExxonMobil has taken no action to date to mitigate the resulting infiltration of contaminated groundwater into the storm drains and ultimate discharge to Island End River. EPA finds, based on this information, that, although not initially

constructed for this use, the storm water collection and discharge system is being utilized as a critical component of the remedial action to prevent off-site migration.

Given the information available, including the results of recent dry weather flow sampling and observations of oil accumulation during both dry and wet weather, EPA believes the groundwater to be generally contaminated. Specific contaminants are discussed in section 6.3.

### **6.2.3 Former Effluent Pond**

A small body of water known as the Effluent Pond, located between the treatment works and Outfall 001, was once used for storm water detention and is now a source of intermittent flows. Although the Effluent Pond currently serves no purpose, it does collect groundwater and rainwater. When the elevation of the Effluent Pond becomes close to overflowing, operators manually activate a drawdown pump. Water from the Effluent Pond is discharged to the head of the treatment works.

### **6.2.4 Maintenance Activities**

Maintenance activities at ExxonMobil generate discharges of potable water that are discharged to the terminal storm drains. These include potable water used to wash floors, for landscape maintenance, and for safety showers.

### **6.2.5 Steam Condensate**

ExxonMobil heats the facility's office and maintenance buildings and No. 6 fuel oil transfer piping with steam generated in an on-site boiler. The steam condensate resulting from this operation is discharged to outfall 001.

### **6.2.6 Truck Wash Water**

The ExxonMobil Everett Terminal includes a paved truck wash area located outside of the maintenance garage. Water used to wash the truck drains to a storm water catch basin.

### **6.2.7 Hydrostatic Test Water**

There has been one hydrostatic test water discharge reported at the facility since the issuance of the Current Permit. Discharge monitoring and reporting were conducted for this testing event in accordance with the procedures described in Part I.A.9 of the Current Permit. Potable water from the local municipal water supply was used as the source of water for this test. Results from the analysis of the hydrostatic test water shows conformance with the requirements and conditions identified in Part I.A.9 of the Current Permit.

### **6.2.8 Marine Dock Residual Product and Storm Water**

The marine vessel dock has a steel drip pan located beneath each of the manifold areas to recover any potentially spilled product. Storm water as well as any residual product accumulating in the drip pan is pumped, as needed, into tank trucks and discharged into the head of the treatment works.

### **6.2.9 Treatment Works**

The treatment works are used to treat all flows to outfall 001. The treatment system consists of a former oil-water separator, which is now used as a distribution chamber known as the separation flume, an oil water separator (OWS) (built in the late 1980's), a two-chamber wet well with a total of 5 submersible pumps, and a 1.45 million gallon above ground storage tank, known as Tank 140. Figure 4 shows a schematic of the current flows through the treatment works.

Flows from the terminal collect in the separation flume. A submerged pipe in the separation flume transfers flow by gravity into the OWS. The transfer rate may be controlled by a gate valve in the pipe between the separation flume and the OWS. The design flow for the OWS is 3,000 gallons per minute (gpm). However, ExxonMobil has acknowledged that flow through the OWS is frequently greater than 3,000 gpm. Flows which exceed the hydraulic transfer capacity of the separation flume and the OWS bypass the OWS and overflow from the separation flume to the first chamber of the wetwell.

The OWS is equipped with coalescing media and manually operated rotary skimmers to remove oil from the surface of the separator. The treatment works are checked at least twice per day and oily water is typically skimmed off twice per day. The skimmed oil is transferred to a below ground oil storage tank and allowed to separate further. Subnatant (water that has separated from the oil and sunk to the bottom) from the oil storage tank is pumped back to the separation flume to further concentrate the oil in the storage tank. The contents of the oil storage tank are periodically emptied and disposed of by a licensed oil disposal contractor. Effluent from the OWS flows into the first chamber of the wet well.

The wet well is divided into two chambers by a baffle to prevent oil captured in the first chamber from flowing into the second chamber. The two chambers are hydraulically connected at the bottom of the wet well. The first chamber contains two 750 gpm pumps and one 3,000 gpm pump. The system operates in lead/lag fashion with the two 750 gpm pumps leading the 3,000 gpm pump. The pumps in the first chamber transfer water treated in the OWS and bypass water to Tank 140.

The second wet well chamber contains two 10,000 gpm pumps. These are used during very heavy rainfall when the flow to the treatment works exceeds the 4,500 gpm capacity of the pumps in the first chamber of the wet well. By pass flows have been monitored by event sampling and reported as outfall 001B. Discharge monitoring data for outfall 001B is summarized in Attachment A. The bypass pumps are manually activated and shut down automatically on low level. Since bypasses have been prohibited in the draft permit, outfall 001B will no longer exist after new permit conditions take effect. (see Section 6.3.3.1)

Tank 140 is used as a secondary settling tank. Water from the first chamber of the wet well is transferred to Tank 140 and then overflows to discharge at Outfall 001. The sampling port on the discharge from Tank 140 has been used for discharge monitoring. The water level in Tank 140 remains constant at approximately 1.45 million gallons. There is no cover on Tank 140. Operators periodically climb to the top of the tank to inspect the surface and remove accumulated oil if necessary.

Flow from areas of the site that are not within the containment areas are collected, pumped to the treatment works and treated through the OWS during and immediately after each rain event. To minimize overflow and bypasses of the treatment works, storm water collected inside the containment areas is stored within those containment areas, for as long as 7 days, prior to being pumped to the collection system and the treatment works. In spite of this, bypasses of the treatment works and Tank 140 have occurred as frequently as 4 times a year since 2002.

### **6.3 Proposed Permit Effluent Limitations and Monitoring Requirements**

The Draft Permit is conditioned to: (1) better regulate non-storm water discharges (e.g., wash water, hydrostatic test water and groundwater) alone or in combination with storm water runoff to Island End River, and (2) to better regulate ancillary operations that have the potential to contact storm water (e.g., materials storage, facility site-runoff, product blending, and product loading and unloading).

Storm water discharges from activities associated with petroleum bulk stations and terminals must satisfy practicable control technology currently available (BPT), best conventional technology (BCT) and best available technology (BAT) requirements and must comply with more stringent water quality based limits

if BCT and BAT requirements are not adequate. On September 25, 1992, EPA issued its General Permit for Storm Water Discharge Associated with Industrial Activity, and determined that the minimum BAT/BCT requirement for storm water discharges associated with industrial activity is a Storm Water Pollution Prevention Plan (SWPPP) [57 FR, 44438]. This general permit was reissued on October 30, 2000 (65 FR 64801) as NPDES Multi-Sector General Permits for Storm Water Discharges Associated With Industrial Activities and is known as the Multi-Sector General Permit (MSGP). Although petroleum bulk storage facilities are included as an industrial activity eligible for coverage by the MSGP, the Everett Terminal is not eligible for coverage under the MSGP partly because it already has an individual permit which contains numeric water-quality based limitations. In addition, the terminal's contaminated groundwater discharge is not among the "allowable non-storm water discharges" authorized under the MSGP (as defined in section 1.2.2.2 of the MSGP). However, EPA has included requirements in the draft permit to the extent possible and consistent with the intent of the MSGP. These requirements include, for example, the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and the prohibition against discharging wash waters where detergents have been used.

Similarly, contaminated groundwater discharges must also satisfy technology and water quality based requirements and must comply with more stringent water quality standards if technology requirements are not adequate. EPA Region 1 has established technology based effluent limits using BPJ for contaminants in the groundwater based on a review of commonly available and utilized groundwater treatment technologies at remediation sites. EPA requested, under Section 308(a) of the Clean Water Act, dry weather sampling in an effort identify priority pollutants which may be infiltrating into the storm drains with contaminated groundwater due to current or past uses of the site.

The effluent limits and permit requirements included in the Draft Permit are discussed in greater detail below.

### **6.3.1 Flow**

Although there are numerous contributions to outfall 001, storm water contributes the overwhelming flow volume during heavy rain events and is the controlling contributor to the consideration of effluent flow limits in the following paragraphs.

Typical treatment technology employed by petroleum bulk storage terminals for storm water runoff is an OWS. This device uses gravity to separate lower and higher density contaminants from water, resulting in an oil phase above the oil/water interface and a heavier particulate phase (settleable solids) on the bottom of the separator. Accordingly, the sizing of OWSs is based on the following design parameters: water-flow rate, relative density of the contaminants to be separated, desired percentage removal of oil, and the operating temperature range.

To ensure proper operation of installed OWSs such that the oil and/or particulate contaminants are not passed through to the river, it is important that the flow through the separator be maintained at or below the maximum design flow rate of the separator. ExxonMobil has identified that the maximum design flow rating for the OWS currently at the facility is 3,000 gpm. The draft permit requires the permittee to retrofit the OWS inlet to ensure that the design capacity of the OWS is not exceeded and that all discharges are treated through it.

EPA acknowledges that flow from storm events is difficult to control entirely, given the varying nature of storms. There will, inevitably, be occasions of unusual weather. Consistent with effluent limit guidelines for point source storm water discharges from other industries (e.g., 40 CFR Part 423 steam electric power generating and 40 CFR Part 436 Mineral Mining and Processing), no monitoring or effluent limits have been set for treatment system overflow, as long as the collection and treatment facilities are designed and

operated to accommodate the peak flow and total volume of storm water and groundwater which would result from a 10-year, 24-hour frequency storm event. The draft permit requires that the date and volume of the system overflow be documented and reported to EPA and MassDEP with the monthly discharge monitoring reports. In addition, no operational discharges, such as fire testing, hydrostatic testing or truck wash water, are permitted until the potential for overflow has ended.

The standard conditions in Part II (paragraph B.4) of the draft permit (attached to all Massachusetts NPDES permits) allow for emergency bypasses of the OWS.

#### **6.3.1.1 Bypasses**

The current permit prohibits bypasses of the OWS through outfall 001B “except during naturally occurring precipitation from severe weather incidents like a hurricane”. From 2002 through 2006 there were 12 bypass events including 4 events in 2006 (in May, June, July and November). There are effluent limits for these bypass discharges in the current permit. These effluent limits were exceeded (for total suspended solids) on four occasions in the last five years (see Attachment A).

EPA has eliminated outfall 001B bypass discharges and prohibited any bypasses of the OWS in the draft permit except as described in the General Conditions (Part II.B.4) of the draft permit. In lieu of a permitted bypass outfall, EPA has established design criteria for ExxonMobil’s collection and treatment system in the draft permit intended to prevent frequent discharges of untreated storm water and groundwater, as described above. The prohibition against treatment system bypasses is consistent with EPA Region 1 requirements at other petroleum bulk storage facilities in the Boston Harbor area.

#### **6.3.2 Total Suspended Solids (TSS)**

Total suspended solids (TSS) include all particles suspended in water which will not pass through a filter. Storm water, carrying silt, dirt and eroded soil is often a source of suspended solids. Polynuclear aromatic hydrocarbons are readily adsorbed onto particulate matter and the release of these compounds can be, to an extent, controlled by regulating the amount of suspended solids released into the environment.

The Draft Permit limit for TSS remains unchanged at 30 mg/l and 100 mg/l for the average monthly and maximum daily values, respectively. The monitoring frequency for this parameter will remain monthly. The TSS limits in the Draft Permit are based upon the limits established in the Current Permit in accordance with the anti-backsliding requirements found in 40 CFR §122.44(l).

The ExxonMobil Everett Terminal was able to consistently meet its TSS limits at outfall 001 over the last permit cycle. At outfall 001B, the daily maximum limit of 100 mg/l TSS was exceeded one time and the monthly average limit of 30 mg/l TSS was exceeded four times during the last five years.

#### **6.3.3 Oil and Grease**

The current permit includes an oil and grease limit of 15 mg/l for the maximum daily value. This is a typical effluent limit for storm water at petroleum bulk storage facilities and reflects the capabilities of the oil/water separator to remove product in the event of an equipment leak or spill of petroleum into the storm water collection system. It is expected that with the best management practices in place at the facility, there will not be any oil accumulation at the treatment works. However, at this facility, groundwater infiltration into the collection system contributes a constant flow of oil to the treatment works. Oil is skimmed off of the oil/water separator at least daily. In this sense, the treatment works is operating as a de facto groundwater treatment system, removing residual oil from the site subsurface.

In establishing the technology-based effluent limit for oil and grease based on best professional judgement (BPJ), EPA reviewed a number of sources, including the substantial monitoring data being submitted pursuant to approved site remediation projects, reviewed a number of other EPA and state issued general permits and related effluent guidelines developed by EPA. Site remediation projects in Massachusetts and New Hampshire have consistently required an effluent limit maximum value for total petroleum hydrocarbons of 5 mg/l (USEPA, 2005). Since there are not expected to be any oil and grease constituents in the discharge except for petroleum hydrocarbons, the draft permit includes a groundwater treatment technology-based limit for oil and grease of 5 mg/l.

Review of monitoring data for outfall 001 from 2002 to 2006 indicates that only one of the monthly oil and grease samples exceeded 5 mg/l or the detection limit, which ranged from 4.2 to 5.3 mg/l. The detected oil and grease result greater than 5 mg/l was 7.2 mg/l in September of 2004. It is expected that with improved flow controls (see Section 6.3.1), ExxonMobil will be able to meet the new oil and grease effluent limit. EPA also believes that this limit will ensure that discharges from the facility do not contribute to the further impairment of the Island End and Mystic Rivers.

As noted in Section 3.0 of this Fact Sheet, oil and grease is one of the pollutants identified by the State of Massachusetts as having contributed to the impairment of the Mystic River (including Island End River). The MassDEP uses a narrative description (e.g., waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water) rather than a numeric threshold to identify whether this pollutant is an issue for a water body. The draft permit accordingly imposes a “no visible sheen” requirement.

In the future, should ExxonMobil remove the contaminated groundwater from the discharge or isolate it in such a way that it could be treated and discharged via an upstream internal outfall, a less stringent effluent limit for oil and grease in storm water at Outfall 001 could be considered as this would constitute a substantial and material change to the circumstances on which the effluent limit is based, in accordance with the anti-backsliding requirements of 40 C.F.R. § 122.44 (l).

#### **6.3.4 pH**

Massachusetts State Surface Water Quality Standards require the pH of Class SB waters to be within the range of 6.5 to 8.5 standard units (S.U.). The pH permit range of 6.5 to 8.5, which is to be monitored on a monthly basis, has been established in accordance with the State Surface Water Quality Standards. The discharge shall not exceed this pH range unless due to natural causes. In addition, there shall be no change from background conditions that would impair any uses assigned to the receiving water class. A summary of the discharge monitoring data submitted by the facility during the time period of November 2003 to March 2006 is included as Attachment A to this Fact Sheet. The pH limits in the draft permit are also retained in accordance with anti-backsliding provisions.

ExxonMobil has demonstrated its ability to meet the pH conditions in the current permit and those conditions are continued in the draft permit.

#### **6.3.5 Polycyclic Aromatic Hydrocarbons (PAHs)**

PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, such as tobacco and charbroiled meat. There are more than 100 different PAHs. PAHs generally occur as complex mixtures (for example, as part of combustion products such as soot), not as single compounds. A few PAHs are used in medicines and to make dyes, plastics, and pesticides. Others are contained in asphalt used in road construction. They can also be found in substances such as crude oil, coal, coal tar pitch, creosote, and roofing tar. They are found throughout the

environment in the air, water, and soil. They can occur in the air, either attached to dust particles or as solids in soil or sediment. (ATSDR, 1995)

PAHs can enter surface water through discharges from industrial plants and waste water treatment plants, and they can be released to soils at hazardous waste sites if they escape from storage containers. The movement of PAHs in the environment depends on properties such as how easily they dissolve in water, and how easily they evaporate into the air. PAHs in general do not easily dissolve in water. They are present in air as vapors or adhered to the surfaces of small solid particles. Some PAHs evaporate into the atmosphere from surface waters, but most stick to solid particles and settle to the bottoms of rivers or lakes. PAHs can also bio-accumulate in fish and shellfish. (ATSDR, 1995) As discussed in Section 3, Island End River sediments have been contaminated with coal tar residues (which are rich in PAHs) due to historic industrial activities and cleanup of these sediments is ongoing.

There are sixteen (16) PAH compounds identified as priority pollutants under the CWA (See 40 CFR Part 423 - Appendix A). Group I PAHs are seven well known carcinogens. They are: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Group II PAHs are the nine priority pollutant PAHs not considered carcinogenic alone, but which can enhance or inhibit the response of the carcinogenic PAHs. They are: acenaphthene, acenaphthylene, anthracene, benzo(ghi)perylene, fluoranthene, fluorine, naphthalene, phenanthrene, and pyrene. Typically, exposure would be to a mixture of PAHs rather than to an individual PAH.

To prevent further PAH contamination of Island End River sediments, EPA established effluent limits for each priority pollutant PAH of 0.0311 µg/L and 0.0311 µg/L for the sum of all 16 PAHs based upon the EPA human health criterion for contaminated fish consumption in ExxonMobil's 1991 NPDES permit. At the time, the practical quantitative limit (PQL) for PAHs ranged from 5 to 10 µg/L; orders of magnitude greater than the effluent limit. Therefore, EPA set a compliance/non-compliance threshold based on the PQL of 10 µg/L for each of the 16 PAHs and 50 µg/L for the sum of any of the 16 PAH compounds detected. These effluent limits and compliance thresholds were continued in ExxonMobil's NPDES permit when it was reissued in 2000.

The EPA's National Recommended Water Quality Criteria (WQC) were revised and reissued in 2004. The sixteen priority pollutants are identified individually in the current criteria, rather than as a group, as was done earlier. WQC to protect human health for the consumption of aquatic organisms have been lowered to 0.018 µg/L for each seven of the Group I PAHs. WQC for the Group II PAHs have been raised or eliminated.

Since 1991, analytical methods used to measure PAHs in water have improved. PQLs for EPA approved methods (identified in 40 C.F.R Part 136) now range from 0.05 to 5 µg/L for the 16 priority pollutant PAHs. Discharge monitoring report (DMR) data submitted by ExxonMobil during the past five years (See Attachment A) shows that while PAHs from outfall 001 were consistently below the compliance/non-compliance limit of 10 µg/L, they were often above the effluent limit of 0.0311 µg/L. During the last three sampling events of 2006, all sixteen priority pollutant PAHs were detected in effluent samples from Outfall 001.

Due to the potential to add to PAH contamination in Island End River sediments and to comply with the anti-backsliding requirements of the Clean Water Act (see Section 5.1.3), EPA has continued the water quality based effluent limits for the Group II PAHs in the draft permit. The effluent limits for Group I PAHs have been reduced to the current WQC for those compounds. Due to the availability of more sensitive analytical methods, EPA has also reduced the compliance/non-compliance thresholds to PQLs that are reflective of current analytical standards for EPA approved methods. The compliance/non-compliance thresholds in the draft permit are as follows.



Benzo(a)anthracene	<0.05 µg/L
Benzo(a)pyrene	<2.0 µg/L
Benzo(b)fluoranthene	<0.1 µg/L
Benzo(k)fluoranthene	<2.0 µg/L
Chrysene	<5.0 µg/L
Dibenzo(a,h)anthracene	<0.1 µg/L
Indeno(1,2,3-cd)pyrene	<0.15 µg/L
Acenaphthene	<0.5 µg/L
Acenaphthylene	<0.2 µg/L
Anthracene	<2.0 µg/L
benzo(ghi)perylene	<0.1 µg/L
Fluoranthene	<0.5 µg/L
Fluorine	<0.1 µg/L
Naphthalene	<0.2 µg/L
Phenanthrene	<0.05 µg/L
Pyrene	<0.05 µg/L

EPA believes that PAH effluent limits proposed in the draft permit ExxonMobil Everett Terminal will ensure that the discharges from the facility do not contribute to the further impairment of the Island End and Mystic Rivers or violations of water quality standards.

### **6.3.6 Volatile Organic Compounds**

#### **6.3.6.1 Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)**

Refined petroleum products contain numerous types of hydrocarbons. Individual hydrocarbon constituents partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in a petroleum release, limits are typically established for the compounds that would be the most difficult to remove as well as demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in gasoline and light distillate products (e.g., diesel fuel). BTEX concentrations typically decrease in the heavier grades of petroleum distillate products (e.g., fuel oils). Since many petroleum spills involve gasoline or diesel fuel, a traditional approach for such spills has been to place limits on the individual BTEX components and/or the sum of total BTEX compounds.

Of these four compounds, benzene has one of the highest solubilities, it is one of the most toxic constituents, and it is found at relatively high concentrations in gasoline and diesel fuel. The concentration of benzene in gasoline is approximately 20,000 parts per million (Potter and Simmons, 1998). Because of the reasons mentioned above, benzene can be considered one of the most important limiting pollutant parameters found in gasoline or diesel fuel. Building on this premise, benzene can be used as an indicator-parameter for regulatory as well as characterization purposes of water which comes in contact with gasoline and diesel fuel. The primary advantage of using an indicator-parameter is that it can streamline monitoring efforts while simultaneously maintaining an effective level of environmental protection.

In 1991, EPA established a water quality based effluent limit of 40 µg/L benzene for discharges from the terminal based upon EPA recommended human health criterion for contaminated fish consumption at that time. The 1991 Permit also required monitoring of toluene, ethyl benzene, and xylenes. These BTEX requirements were also included in the Current Permit (2000). Since 1991, the human health criterion for contaminated fish consumption has been raised to 51 µg/L for benzene. However, in this draft permit, the technology-based limit for benzene is more stringent (see below) and therefore becomes the controlling limit.

The Everett Terminal treatment works is operating as a de facto groundwater treatment system, removing residual contaminants from the site subsurface. Ground water in contact with spilled petroleum product for an extended period of time has the potential to be contaminated with compounds found in that product. Groundwater sampling data submitted by the permittee indicated elevated levels of benzene as high as 0.3 to 2 mg/L in some wells.

Consistent with individual permit effluent limits for contaminated groundwater discharges and combined (contaminated groundwater and storm water) discharges at similar facilities in Massachusetts, EPA has, based on BPJ, established technology-based effluent limits for benzene and total BTEX at 5µg/l and 100µg/l, respectively. The technology limits are based on treatability using liquid phase carbon adsorption, a proven technology capable of removing benzene and other petroleum hydrocarbons from water to non-detectable levels.

As noted in Section 3.0 of this Fact Sheet, priority organics have been identified by Massachusetts as having contributed to the impairment of the Mystic River (including Island End River). EPA believes that limits proposed in the draft permit for BTEX compounds will ensure that the discharges from the facility do not contribute to the further impairment of the Island End and Mystic Rivers and do not contribute to violations of water quality standards.

In the future, should ExxonMobil remove the contaminated groundwater from the discharge or isolate it in such a way that it could be treated and discharged via an upstream internal outfall, a less stringent effluent limit for BTEX in storm water at Outfall 001, such as the 40 µg/L water quality based limit in the current permit, could be considered as this would constitute a substantial and material change to the circumstances on which the effluent limit is based, in accordance with the anti-backsliding requirements of 40 C.F.R. § 122.44 (l).

#### **6.3.6.2 Methyl-Tertiary-Butyl-Ether (MTBE)**

A potential contaminant of concern found in gasoline is methyl tertiary-butyl ether (MTBE). MTBE is a synthetic compound used as a blending component in gasoline. Since 1979 it has been used at low levels in gasoline to enhance octane levels and in some gasoline since 1992 to fulfill the oxygenate requirements established by the 1990 Clean Air Act Amendments. Due to its small molecular size and solubility in water, MTBE moves rapidly into the ground water, faster than do other constituents of gasoline. Because of these physical properties, MTBE has been detected in ground water in a growing number of studies conducted throughout the country. In some instances, these contaminated waters are a source of drinking water. As a result of its toxicity and its ability to rapidly migrate away from contaminant sources areas, EPA has for some time limited MTBE in discharges from remediation projects.

Since the terminal no longer stores or dispenses MTBE on site, EPA anticipates that storm water alone will not contain MTBE. However, since the facility's treatment works operates as a de facto groundwater treatment system, removing residual contaminants from the site subsurface, the discharge of MTBE through outfall 001 continues. Historic groundwater samples from monitoring wells on the property indicate elevated levels of MTBE in the groundwater. The August 2006 dry weather flow sample, taken

prior to treatment in the treatment works, indicated 381 µg/L of MTBE.

Monitoring reports from gasoline remediation sites in New England demonstrate that using best available technology (e.g. air stripping and/or carbon adsorption) a MTBE limit of 70 µg/L can be consistently met by a properly designed and maintained treatment system (EPA 2005). Therefore, EPA has established a technology-based effluent limit for MTBE of 70 µg/l for Outfall 001 in this Draft Permit. The facility is required to monitor and report MTBE concentrations on a monthly basis beginning on the effective date of the permit.

In the future, should ExxonMobil remove the contaminated groundwater from the discharge or isolate it in such a way that it could be treated and discharged via an upstream internal outfall, a less stringent effluent limit for MTBE in storm water at Outfall 001 could be considered as this would constitute a substantial and material change to the circumstances on which the effluent limit is based, in accordance with the anti-backsliding requirements of 40 C.F.R. § 122.44 (l).

#### **6.3.6.3 Ethanol**

Ethanol is a fuel additive increasingly blended with gasoline to replace MTBE as the gasoline oxygenate. Ethanol has replaced MTBE as an additive in Massachusetts at most gasoline distribution facilities and has been stored at the ExxonMobil Everett Terminal since early 2006.

Ethanol is a clear, colorless liquid, miscible with water and many organic solvents. When released from water, it will volatilize or biodegrade and is not expected to adsorb to sediment or bioconcentrate in fish. The use of ethanol as a fuel additive could lead to exposures from water that has been contaminated with ethanol from leaking storage facilities or accidental spills. The draft permit includes a requirement for monthly monitoring of ethanol.

#### **6.3.6.4 Cyanide**

Compounds containing the cyanide group (CN) are used and readily formed in many industrial processes and can be found in a variety of effluents, such as those from steel, petroleum, plastics, synthetic fibers, metal plating, and chemical industries. Cyanide occurs in water in many forms, including: hydrocyanic acid (HCN), the cyanide ion (CN<sup>-</sup>), simple cyanides, metalocyanide complexes, and as organic compounds. "Free Cyanide" is defined as the sum of the cyanide present as HCN and CN<sup>-</sup>. The relative concentrations of these forms depend mainly on pH and temperature. Currently, EPA approved analytical methods are available for "total" cyanide and "available" cyanide in water. "Total" cyanide includes all the forms of cyanide. "Available" cyanide includes free cyanide plus those cyanide forms that can readily disassociate to release free cyanide.

Both HCN and CN<sup>-</sup> are toxic to aquatic life. However, the vast majority of free cyanide usually exists as the more toxic HCN. And, since CN<sup>-</sup> readily converts to HCN at pH values that commonly exist in surface waters, EPA's cyanide criteria are stated in terms of free cyanide expressed as CN<sup>-</sup>. Free cyanide is a more reliable index of toxicity to aquatic life than total cyanide because total cyanides can include nitriles (organic cyanides) and relatively stable metalocyanide complexes.

Historically, cyanide has not been a monitored parameter at ExxonMobil. However, the August 2006 dry weather flow sample, taken prior to treatment in the Treatment System, indicated 81 µg/l of total cyanide. This level is above EPA's National Water Quality Criteria guidance recommendations for available cyanide in salt water of 1 µg/l. However, it is unknown as to how much of the total cyanide was free or available.

EPA finds that there is not enough monitoring data to make a determination that there is reasonable

potential that the discharge from outfall 001 will cause or contribute to a violation of water quality standards for cyanide. EPA has included a requirement to monitor available cyanide levels in discharges from outfall 001 on a monthly basis and may modify the permit in the future if monitoring data indicates that such a reasonable potential exists.

### **6.3.7 Mercury**

As far as EPA is aware, mercury has not been a monitored parameter at ExxonMobil. However, a relatively low concentration (0.31 µg/L) of mercury was detected in the dry weather flow sample collected at the facility in August 2006. The EPA chronic and acute water quality criteria for mercury in salt water are 0.94 µg/L and 1.8 µg/L, respectively. Since the Mystic River and Island End River are impaired for metals and due to mercury's potential to bio-accumulate in aquatic life, the draft permit includes a requirement to monitor mercury on a monthly basis.

EPA finds that there is not enough monitoring data to make a determination that there is reasonable potential that the discharge from outfall 001 will cause or contribute to a violation of water quality standards for mercury. EPA has included a requirement to monitor available mercury levels in discharges from outfall 001 on a monthly basis and may modify the permit in the future if monitoring data indicate that such a reasonable potential exists.

### **6.3.8 Whole Effluent Toxicity**

Toxic pollutants in toxic amounts are prohibited by the Massachusetts Water Quality Standards which state, in part, that "all surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife". The NPDES regulations under 40 CFR § 122.44(d)(1)(v) require whole effluent toxicity (WET) limits in a permit when a discharge has a "reasonable potential" to cause or contribute to an excursion above the State's narrative criterion for toxicity.

The Current Permit for ExxonMobil includes an effluent limit for LC<sub>50</sub> as measured by the WET test using Mysid Shrimp as the test organism. The LC<sub>50</sub> is the concentration of effluent which causes mortality in 50% or fewer organisms. The effluent limit in the Current Permit requires that a sample comprised of 50% or more of effluent (the remainder being dilution water) cause mortality in 50% or fewer organisms. The results of semi-annual WET testing since 2000 have indicated that even without dilution, effluent samples caused mortality in 50% or fewer organisms (see Attachment A). The Draft Permit continues the WET limit and testing requirement on a semi-annual basis to meet the anti-backsliding requirements of the Clean Water Act.

## **6.4 Proposed Permit Conditions**

### **6.4.1 Tank Bottom Wastewater**

The bottom of many petroleum product storage tanks may contain a layer of water that has separated from the stored petroleum product due to the density difference between the product and water. As this water coalesces and then settles to the bottom of the tank, compounds including BTEX and PAHs found in the product above it are able to partition and dissolve into the water. The partitioning and dissolution allows the concentrations of some of the more soluble and denser petroleum components to reach toxic levels. Facility operators drain this layer of water to prevent transfer with the finished product as well as to free up valuable storage space.

Whereas storm water contacts only those hydrocarbons spilled on the ground and then only for short periods of time, tank bottom wastewater remains in intimate proximity with petroleum derivatives for prolonged periods of time, allowing toxic pollutants to dissolve into the aqueous phase. ExxonMobil has

not discharged any tank bottom wastewater through outfall 001 since the last permit was issued. Consistent with NPDES permits at other petroleum bulk storage facilities in the Boston Harbor area, the draft permit prohibits the discharge of tank bottom wastewater alone or in combination with storm water or other wastewater.

#### **6.4.2 Maintenance Garage Floor Washings**

Currently the floor drains in the maintenance garage discharge to the storm water collection system. While other non-storm water discharges at the Everett terminal are related to exterior uses of potable water or contain very low levels of contamination (such as steam condensate), the floor drains in the maintenance garage may contain spills and drips of petroleum products and other fluids used in vehicle maintenance and detergents used in floor washing. The draft permit prohibits the discharge of detergent laden floor washings to outfall 001 from inside the terminal's maintenance garage. EPA recommends that ExxonMobil apply to the Massachusetts Water Resources Authority (MWRA) for discharge of this process wastewater to the MWRA sewers. As an alternative, EPA would consider permitting the discharge of maintenance garage water in the future if it were collected, treated and discharged through an internal outfall prior to discharge into the storm water collection system.

#### **6.4.3 Hydrostatic Test Water Discharges**

Occasionally repairs are made at the facility to the tanks and the piping used for the storage and conveyance of petroleum products. To ensure safe working conditions during this maintenance work, storage tanks and/or pipe networks are rigorously cleaned (e.g., "Poly Brushed", "Squeegee Pigged") and certified as being "gas-free." After completing certain maintenance work, the vessels and/or pipe networks may require hydrostatic testing (e.g., to be filled with water and monitored for changes in water levels) before product replacement. ExxonMobil uses potable water as a source of test water and as a result there may be some residual chlorine present in the discharge. As a precaution, the hydrostatic test water shall be monitored and treated through the treatment works and monitored prior to being discharged to the Island End River. In addition, the flow of hydrostatic test water into the treatment works shall be controlled to prevent it from exceeding the maximum design flow rate of the separator.

#### **6.4.4 Storm Water Pollution Prevention**

This facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through storm water runoff. These operations include at least one of the following in an area potentially exposed to precipitation or storm water: material storage, in-facility transfer, material processing, material handling, or loading and unloading. To control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State's Water Quality Standards, the draft permit requires the facility to develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices (BMPs) appropriate for this specific facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §125.103(b)). Specifically, at this facility, gasoline and fuel oil storage tanks and loading dock are examples of material storage, processing and handling operations that shall continue to be included in the SWPPP.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the storm water system. The SWPPP requirements in the draft permit are intended to provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to

affect the quality of storm water discharges associated with industrial activity from the facility. The SWPPP, upon implementation, becomes a supporting element to any numerical effluent limitations in the draft permit. Consequently, the SWPPP is as equally enforceable as the numerical limits.

This process involves the following four main steps:

- (1) Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
- (2) Assessing the potential storm water pollution sources;
- (3) Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
- (4) Reevaluating, periodically, the effectiveness of the SWPPP in preventing storm water contamination and in complying with the various terms and conditions of the Draft Permit.

ExxonMobil's current permit required the facility to develop a SWPPP (referred to as a Best Management Practices Plan in the current permit) with site-specific best management practices (BMPs). ExxonMobil has certified to EPA that a SWPPP (or BMP Plan) was developed and implemented for this facility in accordance with the requirements identified in the current permit. The draft permit continues to ensure that the SWPPP is kept current and adhered to, by requiring the permittee to maintain and update the SWPPP as changes occur at, or affect, the facility, including changes made as a result of new permit requirements.

## **7.0 ENDANGERED SPECIES ACT**

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the list of federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. The review has focused primarily on marine species and anadromous fish since the discharge is to the Island End River (Mystic River Watershed) which ultimately flows into Boston Harbor. There are no listed marine species or critical habitat present in this area. Furthermore, effluent limitations and other permit conditions which are in place in this Draft Permit should preclude any adverse effects should there be any incidental contact with listed species either in Island End/Mystic River or Boston Harbor. A copy of the draft permit has been provided to NMFS for review and comment as part of an informal Section 7 consultation.

## **8.0 ESSENTIAL FISH HABITAT**

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may

adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802 (10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Id.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of the relevant essential fish habitat information provided by NMFS indicates that essential fish habitat has been designated for 15 managed species within the NMFS boundaries encompassing the outfall location. A copy of the managed species within the EFH is included in Attachment B to this Fact Sheet. EPA has concluded that the permitted discharge will not likely adversely impact the EFH and the managed species identified for this general location. This conclusion is based on the amount and frequency of the discharge, as well as effluent limitations and other permit requirements that are identified in this Fact Sheet. These factors are designed to be protective of all aquatic species, including those with EFH designations.

EPA has determined that a formal EFH consultation with NMFS is not required because the proposed discharge will not adversely impact the EFH. If adverse impacts are detected as a result of this permit action, NMFS will be notified and an EFH consultation will promptly be initiated.

## **9.0 STATE CERTIFICATION REQUIREMENTS**

EPA may not issue a permit unless the MassDEP either certifies that the effluent limitations contained in this permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards or waives its right to such certification. EPA has requested that MassDEP certify the permit. Under Section 401 of the CWA, EPA is required to obtain certification from the state in which the discharge is located which determines that all water quality standards, in accordance with Section 301(b)(1)(C) of the CWA, will be satisfied. Regulations governing state certification are set forth in 40 CFR §124.53 and §124.55. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d). EPA expects that the permit will be certified.

## **10.0 PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION**

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period to: Ms. Ellen Weitzler, NPDES Industrial Permit Branch, U.S. Environmental Protection Agency, One Congress Street, Suite 1100 (Mail Code: CIP), Boston, Massachusetts 02114-2023. A public hearing will be held after at least thirty (30) days public notice. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA-New England's Boston office.

Following the close of the comment period, and after the public hearing, the EPA will issue a Final Permit decision and forward a copy of the final decision to the applicant and each person who has submitted

written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

## 11.0 EPA & MASSDEP CONTACTS

Additional information concerning the Draft Permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Ellen Weitzler, EPA New England - Region I  
1 Congress Street, Suite 1100 (CIP)  
Boston, MA 02114-2023  
Telephone: (617) 918-1582 FAX: (617) 918-1505  
email: [weitzler.ellen@epa.gov](mailto:weitzler.ellen@epa.gov)

or

Paul Hogan, Massachusetts Department of Environmental Protection  
Division of Watershed Management, Surface Water Discharge Permit Program  
627 Main Street, 2nd Floor Worcester, Massachusetts 01608  
Telephone: (508) 767-2796 FAX: (508) 791-4131  
email: [paul.hogan@state.ma.us](mailto:paul.hogan@state.ma.us)

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Date

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Stephen S. Perkins, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency



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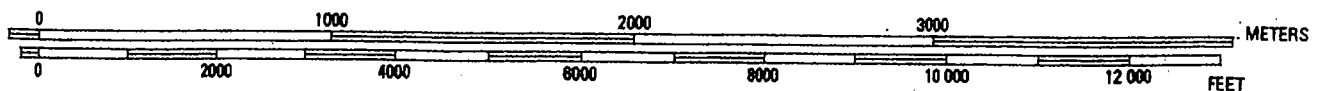
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USGS MAP BOSTON NORTH, MASSACHUSETTS



AREA TOPOGRAPHIC MAP  
EXXONMOBIL TERMINAL  
EVERETT, MASSACHUSETTS

FIGURE

1

2

ENFORCEMENT CONFIDENTIAL

FOIA EXEMPT

DO NOT RELEASE

FIGURE 2

SITE PLAN  
EXXONMOBIL  
EVERETT TERMINAL

The site plan illustrates the layout of the ExxonMobil Everett Terminal. It features numerous storage tanks labeled with codes such as TK-140, TK-141, TK-142, TK-143, TK-144, TK-145, TK-149, TK-150, TK-151, TK-152, TK-153, TK-154, TK-155, TK-156, TK-157, TK-158, TK-159, TK-160, TK-161, TK-162, TK-163, TK-164, TK-165, TK-166, TK-167, TK-168, TK-169, TK-170, TK-171, TK-172, TK-173, TK-174, TK-175, TK-176, TK-177, TK-178, TK-179, TK-180, TK-181, TK-182, TK-183, TK-184, TK-185, TK-186, TK-187, TK-188, TK-189, TK-190, TK-191, TK-192, TK-193, TK-194, TK-195, TK-196, TK-197, TK-198, TK-199, TK-200, TK-201, TK-202, TK-203, TK-204, TK-205, TK-206, TK-207, TK-208, TK-209, TK-210, TK-211, TK-212, TK-213, TK-214, TK-215, TK-216, TK-217, TK-218, TK-219, TK-220, TK-221, TK-222, TK-223, TK-224, TK-225, TK-226, TK-227, TK-228, TK-229, TK-230, TK-231, TK-232, TK-233, TK-234, TK-235, TK-236, TK-237, TK-238, TK-239, TK-240, TK-241, TK-242, TK-243, TK-244, TK-245, TK-246, TK-247, TK-248, TK-249, TK-250, TK-251, TK-252, TK-253, TK-254, TK-255, TK-256, TK-257, TK-258, TK-259, 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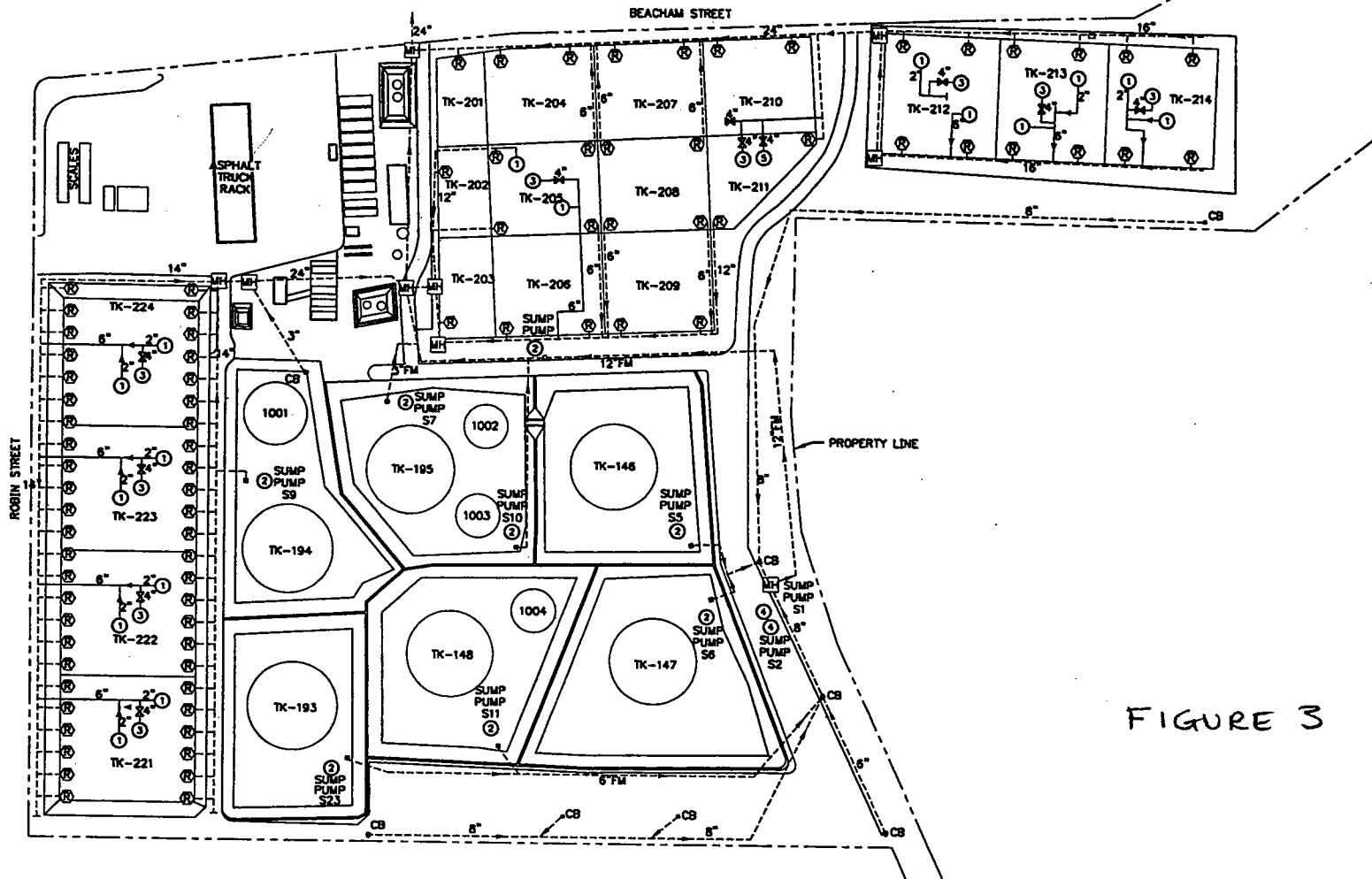
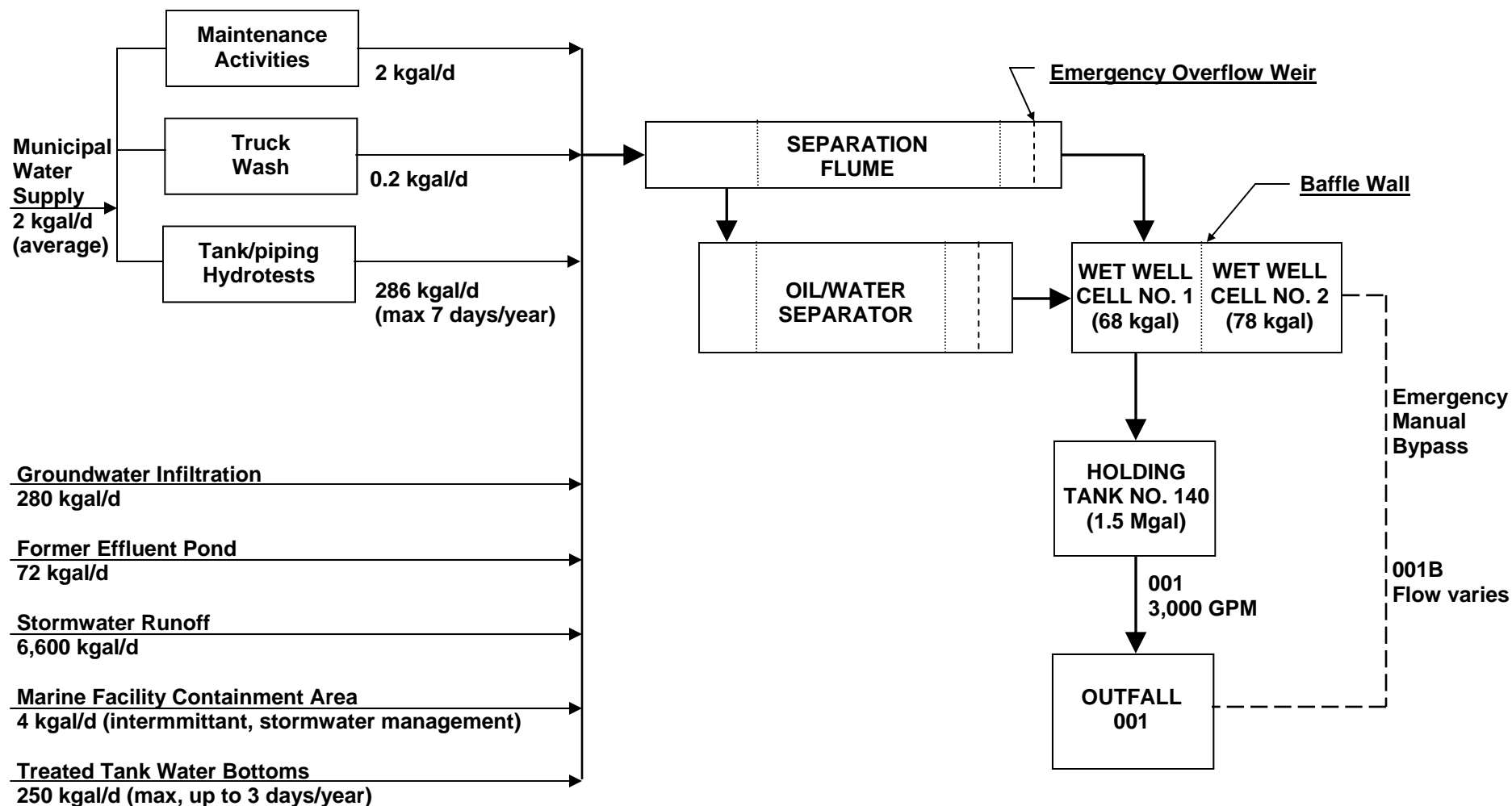


FIGURE 3

LEGEND

---	UNDERGROUND
---	ABOVE GROUND
①	INTANK SUMP
②	7.5 HP SUMP
③	BS&W PUMP
④	15 HP SUMP
⑤	MAIN PUMP
MH	DRAIN MANHOLE
CB	CATCH BASIN
FM	FORCED MAIN
⊗	6" SCUPPER



Source: ExxonMobil NPDES permit application 2005

**CURRENT PROCESS FLOW DIAGRAM  
EXXONMOBIL TERMINAL  
EVERETT TERMINAL**

**FIGURE 4**

Monitoring Period End Date	Flow (max)	Flow (Ave)	pH (max)	pH (min)	TSS (max)	TSS (ave)	O&G (max)	Benzene	Toluene	Ethylbenzene	Xylene	Total BTEX
31-Dec-06	0.94	0.4	7.03	7.03	4	4	4.1	0.5	1	1	1	3.5
30-Nov-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
31-Oct-06	2.02	0.27	7.4	7.4	4	4	4.1	0.5	1	1	1	3.5
30-Sep-06	0.65	0.15	7.4	7.4	4	4	4.1	0.5	1	1	1	3.5
31-Aug-06	0.57	0.2	6.8	6.8	4	4	4.1	0	0	0	0	0
31-Jul-06	0.98	0.25	7.8	7.8	6	6	4.1	0	0	0	0	0
30-Jun-06	3.49	0.69	7.8	7.8	12	12	4.2	3.7	12	1.9	13.9	31.5
31-May-06	3.99	0.7	7.87	7.87	4	4	4.1	6.4	48	13.6	74.6	142.6
30-Apr-06	0.592	0.149	7.8	7.8	<4	<4	<4.1	4.2	18.4	4.1	23	49.7
31-Mar-06	1.229	0.161	7.77	7.77	14	14	<4.1	3	13.1	3.1	23.7	42.9
28-Feb-06	3.979	0.581	7.91	7.91	22	22	<4.1	10.8	35.2	4.5	29.3	79.8
31-Jan-06	2.853	0.882	8.06	8.06	9	9	<4.1	0.78	0	0	4.8	5.58
31-Dec-05	2.225	0.668	7.67	7.67	19	19	<4.1	1.3	6.3	2.9	16.9	27.4
30-Nov-05	2.404	0.583	7.84	7.84	<4	<4	<4.2	0	0	0	0	0
31-Oct-05	4.388	1.043	7.85	7.41	6	6	<5.1	1.2	0	0	0	1.2
30-Sep-05	0.733	0.203	7.87	7.87	<4	<4	<5.1	0	0	0	0	0
31-Aug-05	0.640	0.196	7.72	7.72	<4	<4	<5.1	0	0	0	0	0
31-Jul-05	1.538	0.351	7.5	7.5	14	14	<5.1	17.5	84.8	21.5	56.6	180.4
30-Jun-05	0.637	0.235	7.11	7.11	7	7	<5.1	0	0	0	0	0
31-May-05	2.350	0.598	7.8	7.8	<4	<4	<5.2	0.99	0	0	0	0.99
30-Apr-05	1.861	0.552	7.7	7.7	8	8	<5.1	0	0	0	0	0
31-Mar-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
28-Feb-05	2.474	0.760	7.83	7.83	<4	<4	<5.1	0	0	0	1.1	1.1
31-Jan-05	2.803	1.000	8.11	8.11	17	17	<5.1	2	4.1	0	8.4	14.5
31-Dec-04	2.926	0.972	8	8	11	11	<5.1	0	0	0	0	0
30-Nov-04	1.393	0.557	7.79	7.79	7	7	<5.3	0.85	9.5	1	9.7	21.05
31-Oct-04	1.461	0.416	7.92	7.92	<4	<4	<5.2	0	0	0	0	0
30-Sep-04	3.816	0.623	7.8	7.8	<4.0	<4.0	7.2	0	0	0	0	0
31-Aug-04	1.538	0.354	8	7.7	24	<14	<5.1	1	1.3	0	2.8	5.1
31-Jul-04	0.851	0.281	7.45	7.45	<4.0	<4.0	<5.2	0.77	0	0	2.2	2.97
30-Jun-04	1.233	0.853	7.85	7.85	7	7	<5.1	0	0	0	0	0
31-May-04	2.028	1.003	8.02	8.02	<4	<4	<5.1	0	0	0	0	0
30-Apr-04	4.119	1.337	8.01	7.95	17	9.3	<5.1	10.2	29.7	4.8	39.9	84.6
31-Mar-04	1.762	1.004	7.68	7.68	<4	<4	<5.1	0	0	0	2.5	2.5
29-Feb-04	1.622	0.925	7.84	7.84	8	8	<5.1	1.9	2.3	0	4.1	8.3
31-Jan-04	1.435	0.199	7.98	7.98	<4	<4	<5.1	0	0	0	0	0
31-Dec-03	4.403	1.678	7.79	7.66	23	15	<5.1	4.8	24.1	10.8	73	112.7
30-Nov-03	1.603	1.098	7.81	7.81	6	6	<5.1	0	0	0	0	0
31-Oct-03	3.391	1.249	7.73	7.43	<4.0	<4.0	<5.1	1.1	0	0	3.5	4.6
30-Sep-03	2.019	1.033	7.76	7.76	<4.0	<4.0	<5.1	0.71	2.4	0	1.3	4.41
31-Aug-03	2.964	1.108	7.68	7.68	<4.0	<4.0	<5.1	0	0	0	0	0
31-Jul-03	1.842	0.974	7.71	7.71	<4.0	<4.0	<5.1	0	0	0	0	0
30-Jun-03	3.677	1.310	7.78	7.78	18	18	<5.1	1.3	2	0	4	7.3
31-May-03	2.148	1.119	7.7	7.7	<4.0	<4.0	<5.1	0	0	0	0	0
30-Apr-03	2.111	1.247	7.72	7.72	<4.0	<4.0	<5.1	2.7	1	0	2.7	6.4
31-Mar-03	3.444	1.647	7.7	7.7	<4.0	<4.0	<5.1	1.5	2.1	0	11.8	15.4
28-Feb-03	2.679	0.431	7.69	7.69	6	6	<5.1	0	0	0	0	0
31-Jan-03	1.209	0.431	8.5	8.5	6	6	<5.1	2.7	10.7	1.2	11.8	26.4
31-Dec-02	3.892	1.388	7.7	7.7	16	16	<5.1	1.7	2.2	0	3.7	7.6
30-Nov-02	3.073	0.714	8.15	7.9	11	<7.0	<5.1	1.6	2.2	0	2.2	6
31-Oct-02	2.782	0.375	7.95	7.8	12	<8.0	<5.1	1.1	1.5	0	4.3	6.9
30-Sep-02	2.362	0.340	7.51	7.51	<4.0	<4.0	<5.1	0	0	0	0	0
31-Aug-02	0.302	0.137	7.54	7.54	6	6	<5.0	0	0	0	0	0
31-Jul-02	0.292	0.076	7.83	7.83	5	5	<5.0	0	0	0	0	0
30-Jun-02	2.078	0.355	8.03	8.03	7	7	<5.1	0	0	0	0	0
31-May-02	2.407	0.512	7.82	7.82	11	11	<5.2	0	0	0	0	0
30-Apr-02	2.643	0.330	8.26	8.26	10	10	<5.0	0	9.4	0	12.7	22.1
31-Mar-02	3.287	0.770	7.75	7.75	8	8	<5.1	2.4	1.1	0	3	6.5
28-Feb-02	3.402	0.933	7.79	7.79	9	9	<5.2	3	15.8	2.1	12.4	33.3
31-Jan-02	1.668	0.743	7.59	7.59	<4.0	<4.0	<5.2	0	0	0	0	0
Current Permit Limit	Report	Report	8.5	6.5	100	30	15	40	Report	40	Report	na
Units	MGD	MGD	s.u.	s.u.	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0.292	0.076	6.8	6.8	<4	<4	4.1	0	0	0	0	0
Maximum	4.403	1.678	8.5	8.5	24	22	7.2	17.5	84.8	21.5	74.6	180.4
Average <sup>1</sup>	2.193	0.675	7.77	7.74	10.32	9.39	4.50	1.60	5.90	1.28	7.98	16.76
Standard Deviation <sup>1</sup>	1.125	0.409	0.27	0.27	5.72	4.85	1.09	3.08	14.19	3.65	16.40	35.68
# of measurements	58	58	58	58	37	34	8	58	58	58	58	58
#exceedances	na	na	0	0	0	0	0	0	NA	0	na	0

Monitoring Period End Date	Total PAHs	Group I PAHs						
		Benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	Chrysene	dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene
31-Dec-06	0	0.15	0.15	0.15	0.15	0.15	0.15	0.15
30-Nov-06	ND	ND	ND	ND	ND	ND	ND	ND
31-Oct-06	5	0.15	0.15	0.15	0.15	0.15	0.15	0.15
30-Sep-06	0	0.16	0.16	0.16	0.16	0.16	0.16	0.16
31-Aug-06	0	0	0	0	0	0	0	0
31-Jul-06	0	0	0	0	0	0	0	0
30-Jun-06	0.75	0	0	0	0.27	0	0	0
31-May-06	0	0	0	0	0	0	0	0
30-Apr-06	0.5	0	0	0	0	0	0	0
31-Mar-06	1.14	0	0	0.37	0	0	0	0
28-Feb-06	2.02	0	0	0	0	0.53	0	0
31-Jan-06	1.2	0	0	0	0	0	0	0
31-Dec-05	0	0	0	0	0	0	0	0
30-Nov-05	0	0	0	0	0	0	0	0
31-Oct-05	0.22	0	0	0	0	0	0	0
30-Sep-05	0	0	0	0	0	0	0	0
31-Aug-05	0	0	0	0	0	0	0	0
31-Jul-05	3.97	0.24	0.72	0.44	0.49	0.36	0.22	0
30-Jun-05	0	0	0	0	0	0	0	0
31-May-05	0	0	0	0	0	0	0	0
30-Apr-05	1.82	0	0	0	0	0.2	1.1	0
31-Mar-05	ND	ND	ND	ND	ND	ND	ND	ND
28-Feb-05	1.55	0	0	0	0	0.67	0	0
31-Jan-05	2.5	0	0	0	0	0	0	0
31-Dec-04	0	0	0	0	0	0	0	0
30-Nov-04	0	0	0	0	0	0	0	0
31-Oct-04	0	0	0	0	0	0	0	0
30-Sep-04	0	0	0	0	0	0	0	0
31-Aug-04	0.64	0	0.15	0	0.2	0	0	0
31-Jul-04	0	0	0	0	0	0	0	0
30-Jun-04	0	0	0	0	0	0	0	0
31-May-04	0	0	0	0	0	0	0	0
30-Apr-04	4.7	0	0	0	0	0	0	0
31-Mar-04	0	0	0	0	0	0	0	0
29-Feb-04	0	0	0	0	0	0	0	0
31-Jan-04	0	0	0	0	0	0	0	0
31-Dec-03	8.21	0	0	0.54	0	0.27	0	0
30-Nov-03	0	0	0	0	0	0	0	0
31-Oct-03	8.97	0.2	0.5	0.28	0	0	0.24	0
30-Sep-03	0	0	0	0	0	0	0	0
31-Aug-03	0	0	0	0	0	0	0	0
31-Jul-03	0	0	0	0	0	0	0	0
30-Jun-03	0	0	0	0	0	0	0	0
31-May-03	0	0	0	0	0	0	0	0
30-Apr-03	0	0	0	0	0	0	0	0
31-Mar-03	1.3	0	0	0	0	0	0	0
28-Feb-03	0.4	0	0.25	0.15	0	0	0	0
31-Jan-03	0.43	0	0	0	0	0	0	0
31-Dec-02	1.27	0	0	0.25	0.18	0.23	0	0
30-Nov-02	0.31	0	0	0	0	0	0	0
31-Oct-02	1.5	0	0	0	0	0.2	0	0
30-Sep-02	0	0	0	0	0	0	0	0
31-Aug-02	0	0	0	0	0	0	0	0
31-Jul-02	0	0	0	0	0	0	0	0
30-Jun-02	0	0	0	0	0	0	0	0
31-May-02	0	0	0	0	0	0	0	0
30-Apr-02	1.08	0	0.19	0.17	0.16	0.22	0	0
31-Mar-02	0	0	0	0	0	0	0	0
28-Feb-02	0	0	0	0	0	0	0	0
31-Jan-02	0	0	0	0	0	0	0	0
Current Permit Limit	50	10	10	10	10	10	10	10
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0	0	0	0	0	0	0	0
Maximum	8.97	0.24	0.72	0.54	0.49	0.67	1.1	0.16
Average <sup>1</sup>	0.85	0.02	0.04	0.05	0.03	0.05	0.03	0.01
Standard Deviation <sup>1</sup>	1.85	0.05	0.12	0.12	0.09	0.13	0.15	0.03
# of measurements	58	58	58	58	58	58	58	58
#exceedances	0	0	0	0	0	0	0	0

Monitoring Period End Date	Group II PAHs								
	Acenaphthene	Acenaphthylene	Anthracene	benzo(ghi)perylene	fluoranthene	fluorene	naphthalene	Phenanthrene	Pyrene
31-Dec-06	1	0.2	1	0.15 ug/L	1		1	0.2	1
30-Nov-06	ND	ND	ND	ND	ND	ND	ND	ND	ND
31-Oct-06	1	0.2	1	0.15	1	1	1	0.2	1
30-Sep-06	1	0.21	1	0.16	1	1	1	0.21	1
31-Aug-06	0	0	0	0	0	0	0	0	0
31-Jul-06	0	0	0	0	0	0	0	0	0
30-Jun-06	0	0	0	0	0	0	0	0.48	0
31-May-06	0	0	0	0	0	0	0	0	0
30-Apr-06	0	0	0	0	0	0	0	0.5	0
31-Mar-06	0	0	0	0	0	0	0	0.77	0
28-Feb-06	0	0	0	0	0	0	0	0	1.1
31-Jan-06	0	0	0	0	0	0	0	1.2	0
31-Dec-05	0	0	0	0	0	0	0	0	0
30-Nov-05	0	0	0	0	0	0	0	0	0
31-Oct-05	0	0	0	0	0	0	0	0.22	0
30-Sep-05	0	0	0	0	0	0	0	0	0
31-Aug-05	0	0	0	0	0	0	0	0	0
31-Jul-05	0	0.65	0	0	0	0	0	0.85	0
30-Jun-05	0	0	0	0	0	0	0	0	0
31-May-05	0	0	0	0	0	0	0	0	0
30-Apr-05	0	0	0	0	0	0	0	0.52	0
31-Mar-05	ND	ND	ND	ND	ND	ND	ND	ND	ND
28-Feb-05	0	0	0	0	0	0	0	0.88	0
31-Jan-05	0	0	0	0	0	0	0	2.5	0
31-Dec-04	0	0	0	0	0	0	0	0	0
30-Nov-04	0	0	0	0	0	0	0	0	0
31-Oct-04	0	0	0	0	0	0	0	0	0
30-Sep-04	0	0	0	0	0	0	0	0	0
31-Aug-04	0	0	0	0	0	0	0	0.29	0
31-Jul-04	0	0	0	0	0	0	0	0	0
30-Jun-04	0	0	0	0	0	0	0	0	0
31-May-04	0	0	0	0	0	0	0	0	0
30-Apr-04	0	0	0	0	0	0	1.3	2.4	0
31-Mar-04	0	0	0	0	0	0	0	0	0
29-Feb-04	0	0	0	0	0	0	0	0	0
31-Jan-04	0	0	0	0	0	0	0	0	0
31-Dec-03	0	0	0	0	0	0	0	1.8	0
30-Nov-03	0	0	0	0	0	0	0	0	0
31-Oct-03	0	0.65	0	0	0	0	1.7	2.3	0
30-Sep-03	0	0	0	0	0	0	0	0	0
31-Aug-03	0	0	0	0	0	0	0	0	0
31-Jul-03	0	0	0	0	0	0	0	0	0
30-Jun-03	0	0	0	0	0	0	0	0	0
31-May-03	0	0	0	0	0	0	0	0	0
30-Apr-03	0	0	0	0	0	0	0	0	0
31-Mar-03	0	0	0	0	0	0	0	0	0
28-Feb-03	0	0	0	0	0	0	0	0	0
31-Jan-03	0	0	0	0	0	0	0	0.43	0
31-Dec-02	0	0	0	0	0	0	0	0	0
30-Nov-02	0	0	0	0	0	0	0	0.31	0
31-Oct-02	0	0	0	0	0	0	0	1.3	0
30-Sep-02	0	0	0	0	0	0	0	0	0
31-Aug-02	0	0	0	0	0	0	0	0	0
31-Jul-02	0	0	0	0	0	0	0	0	0
30-Jun-02	0	0	0	0	0	0	0	0	0
31-May-02	0	0	0	0	0	0	0	0	0
30-Apr-02	0	0	0	0	0	0	0	0.34	0
31-Mar-02	0	0	0	0	0	0	0	0	0
28-Feb-02	0	0	0	0	0	0	0	0	0
31-Jan-02	0	0	0	0	0	0	0	0	0
Current Permit Limit	10	10	10	10	10	10	10	10	10
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0	0	0	0	0	0	0	0	0
Maximum	1	0.65	1	0.16	1	1	1.7	2.5	1.1
Average <sup>1</sup>	0.05	0.03	0.05	0.01	0.05	0.04	0.10	0.31	0.07
Standard Deviation <sup>1</sup>	0.22	0.13	0.22	0.03	0.22	0.19	0.35	0.62	0.26
# of measurements	58	58	58	57	58	57	58	58	58
#exceedances	0	0	0	0	0	0	0	0	0



ExxonMobil Everett Terminal  
DMR Summary 2000 to 2005 Outfall 001B

Monitoring Period End Date	Flow (max)	duration of discharge	pH MAX	pH MIN	TSS MAX	TSS AVE	O&G MAXIMUM	Benzene	Toluene	Ethylbenzene	Xylene	Total BTEX
30-Nov-06	0.3	0.5	6.8	6.8	17	17	4.1	0.5	1	1	1	3.5
31-Jul-06	1.07	3.1	8.84	8	85	39	13.2	0	1.1	4.7	8.9	14.7
30-Jun-06	1.42	2.62	7.7	7.68	96	57.5	4.3	28	117	22.5	113	280.5
31-May-06	4.06	16.2	7.93	7.52	42	19.3	4.1	9.4	69.2	13.6	62.2	154.4
31-Oct-05	2.7	5.1	7.6	7.6	<4	<4	<4.1	4.1	0	0	3.8	7.9
31-Jul-05	0.6	1.0		7.1	15	15	<5.1	26.2	134	34.3	96	290.5
31-Aug-04	2.4	4.0	7.98	7.98	<4	<4	<5.1	0	0	0	0	0
31-Dec-03	0.6	1.0	7.68	7.68	33	33	<5.1	6.2	37.9	19.5	122	185.6
31-Oct-03	0.9	1.5	7.85	7.85	33	33	<5.1	3.2	7.7	0	21.4	32.3
31-Mar-03	0.1	1.8	7.84	7.84	116	116	<5.1	2.5	4.6	2.1	14	23.2
30-Nov-02	0.2	0.3	7.8	7.8	23	23	<5.1	2.1	3.4	0	3.5	9
31-Oct-02	1.1	1.9	7.84	7.84	46	46	<5.1	2	9.6	5.2	27.1	43.9
Current Permit Limit	Report	Report	8.5	6.5	100	30	15	40	Report	Report	Report	NA
Units	MGD	hrs	s.u.	s.u.	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0.117	0.25	6.8	6.8	<4	<4	<4.1	0	0	0	0	0
Maximum	4.06	16.2	8.84	8	116	116	13.2	28	134	34.3	122	291
Average <sup>1</sup>	1.29	3.24	7.81	7.64	38.92	30.68	1.98	7.02	32.13	8.58	39.41	87
Standard Deviation <sup>1</sup>	1.20	4.33	0.40	0.36	37.73	31.25	3.95	9.76	48.31	11.36	46.32	110
# of measurements	12	12	11	12	13	13	13	13	13	13	13	13
#exceedances	NA	NA	0	0	1	4	0	0	NA	NA	NA	NA

## Notes:

1. Average and Standard deviation calculated assuming zero value for measurements below the detection limit for any parameter.

NA = Not Applicable

ExxonMobil Everett Terminal  
DMR Summary 2000 to 2005 Outfall 001B

Monitoring Period End Date	Total PAHs	Group I PAHs						
		Benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	Chrysene	dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene
30-Nov-06	0.31	0.15	0.15	0.15	0.15	0.31	0.15	0.15
31-Jul-06	1.1	0	0.57	0	0.18	0	0	0
30-Jun-06	11.09	0	0	7.7	0	0	0	0
31-May-06	22.96	0.68	0.42	0.26	1.2	2.7	0	0
31-Oct-05	0.81	0	0	0	0	0	0	0
31-Jul-05	13.29	0.52	2	1.5	0.43	0.84	0.5	0
31-Aug-04	0	0	0	0	0	0	0	0
31-Dec-03	18.9	0	0.27	0.58	0.45	0	0	0
31-Oct-03	0.46	0	0	0	0	0	0	0
31-Mar-03	11.9	0.22	0.32	0.55	0.49	0.64	0	0.37
30-Nov-02	2.21	0	0	0.18	0.16	0.24	0	0.24
31-Oct-02	28.17	0.16	0.4	0.94	0.83	1.1	0	0.84
Current Permit Limit	50	10	10	10	10	10	10	10
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0	0	0	0	0	0	0	0
Maximum	28	0.68	2	7.7	1.2	2.7	0.5	0.84
Average <sup>1</sup>	9	0.14	0.34	0.99	0.32	0.49	0.05	0.13
Standard Deviation <sup>1</sup>	10	0.23	0.56	2.16	0.38	0.79	0.15	0.25
# of measurements	13	13	13	13	13	13	13	13
#exceedances	0	0	0	0	0	0	0	0

## Notes:

1. Average and Standard deviation calculated for measurements below the detection limit.

NA = Not Applicable

ExxonMobil Everett Terminal  
DMR Summary 2000 to 2005 Outfall 001B

Group II PAHs

Monitoring Period End Date	Acenaphthene	Acenaphthylene	Anthracene	benzo(ghi)perylene	fluoranthene	fluorene	naphthalene	Phenanthrene	Pyrene
30-Nov-06	1	0.2	1	0.15	1	1	1	0.2	1
31-Jul-06	0	0	0	0	0	0	4.7	1.1	0
30-Jun-06	1.2	0	0	0	1.9	1.2	0	7.7	0
31-May-06	0	0	0	0	1.1	0	1.2	3.6	13
31-Oct-05	0	0	0	0	0	0	0	0.81	0
31-Jul-05	0	1.4	0	0	0	0	0	3.2	1.7
31-Aug-04	0	0	0	0	0	0	0	0	0
31-Dec-03	0	0	0	0	0	0	6.2	2.2	0
31-Oct-03	0	0	0	0	0	0	0	0.46	0
31-Mar-03	0	0	0	0.41	0	0	1.1	3.2	1.6
30-Nov-02	0	0	0	0.19	0	0	0	1.2	0
31-Oct-02	1.3	0	1.1	0	0	1.6	1.6	9.1	2.7
Current Permit Limit	10	10	10	10	10	10	10	10	10
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Minimum	0	0	0	0	0	0	0	0	0
Maximum	1.3	1.4	1.1	0.41	1.9	1.6	6.2	9.1	13
Average <sup>1</sup>	0.29	0.13	0.18	0.06	0.33	0.32	1.32	2.73	1.67
Standard Deviation <sup>1</sup>	0.53	0.40	0.41	0.13	0.64	0.59	2.04	2.93	3.69
# of measurements	13	13	13	13	13	13	13	13	13
#exceedances	0	0	0	0	0	0	0	0	0

## Notes:

1. Average and Standard d  
below the detection limit

NA = Not Applicable

**RESPONSE TO COMMENTS**  
**ON DRAFT MODIFICATION OF NPDES PERMIT NO. MA0000833**  
**EXXONMOBIL OIL CORPORATION-EVERETT TERMINAL**

The U.S. Environmental Protection Agency (EPA or Region) and the Massachusetts Department of Environmental Protection (MassDEP) solicited public comments from December 10, 2009 through January 8, 2010 on the draft National Pollution Discharge Elimination System (NPDES) permit modification for ExxonMobil Oil Corporation's (ExxonMobil's) bulk petroleum storage facility in Everett, Massachusetts. The permit modification is being jointly issued by EPA and MassDEP under the federal Clean Water Act and Massachusetts Clean Waters Act, respectively. The Region received timely comments from one party: Michael Fager of Mystic River Watershed Association (MyRWA). This document presents EPA's and MassDEP's joint response to comments. No substantive changes were made between the draft and final permit modification. However, administrative updates were made to the permit, such as the name and title of the current MassDEP signator.

The Final Modified Permit and this response to public comments are available and can be downloaded from EPA's web site at [http://www.epa.gov/NE/npdes/permits\\_listing\\_ma.html](http://www.epa.gov/NE/npdes/permits_listing_ma.html). Copies of the Final Modified Permit also may be obtained by writing or calling Ellen Weitzler, Office of Ecosystem Protection, 5 Post Office Square, Suite 100, Boston, MA 02109-3912; Telephone: (617) 918-1582.

**Background**

The Region re-issued NPDES Permit No. MA0000833 ("Final Permit") on September 29, 2008, to ExxonMobil to authorize point source discharges during dry weather and wet weather from a bulk petroleum storage facility in Everett, Massachusetts to a culvert that leads to the Island End River. The Final Permit authorized discharges consisting of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water and effluent pond water, subject to effluent limitations and monitoring conditions.

Following issuance of the Final Permit, ExxonMobil timely petitioned the U.S. Environmental Protection Agency Environmental Appeals Board ("Board") for review of the Final Permit under 40 C.F.R § 124.19(a). ExxonMobil's petition challenged various aspects of the Final Permit on substantive as well as procedural grounds. *See* Petition for Review of a NPDES Permit Issued by EPA Region 1, dated October 28, 2008 ("Petition").

Following receipt of ExxonMobil's Petition, the Board directed the Region to prepare a response that addressed ExxonMobil's contentions and whether ExxonMobil had satisfied the requirements for obtaining review. Subsequently, the parties jointly moved the Board to extend the deadline for the Region to file its response to ExxonMobil's Petition, to allow the parties to explore the viability of settlement. The parties successfully settled their dispute. Under the settlement, ExxonMobil *withdrew its Petition*, and the Region *withdrew the contested conditions* and agreed to propose modified conditions for public review and comment. The Board dismissed the appeal on August 11, 2009.

The proposed permit modification established separate effluent limitations and monitoring requirements to address wet weather discharges (dominated by storm water) and dry weather discharges (comprised of infiltrated groundwater, some of which exhibits contamination from historic refinery and bulk petroleum operations). To implement this tiered permitting structure, ExxonMobil agreed to extensively redesign its effluent treatment system in order to improve effluent quality under all flow conditions, including through the use of a continuously operated advanced treatment system, and a flow equalization tank to store storm

water volume during periods of peak storm water flow. The continuously operated treatment system will be capable of treating the dry weather flow from the site, as well as storm water flow.

ExxonMobil also agreed to move forward with the effluent treatment system upgrade in the absence of a final permit so that it will be in a position to comply with all aspects of the permit modification upon the date of final permit modification issuance. The Region, for its part, agreed to time the issuance of the final permit modification to allow ExxonMobil to complete its upgrade so long as certain interim milestones are achieved as outlined in the Memorandum of Understanding (MOU), dated August 5, 2009, between ExxonMobil and the Region.

ExxonMobil has completed the work on the effluent treatment system upgrade under the MOU. The issuance of the final permit modification is the final step in the implementation of the settlement. Upon the effective date of the final permit modification, the treatment system will come online and become fully operational.

## Comments

*Michael A. Fager submitted the following comments on behalf of MyRWA:*

**The Mystic River Watershed Association is an organization whose mission is to restore clean water in the Mystic River watershed, to protect that water quality and related natural resources within the watershed. To this end, we support the NPDES permit issued to ExxonMobil for their bulk petroleum storage facility in Everett, Massachusetts, on September 20, 2008. We do not support the petition for modification of that permit filed by ExxonMobil. Therefore, we are requesting that the requested modification of that permit be denied, and the original permit, as issued, be put in force.**

**We specifically object to the requested modification because, in our opinion, those modifications will lead to a decline in the water quality of the Mystic River, and will thus have an adverse impact on marine and estuarine organisms that inhabit the waters that will be impacted by these discharges. At this point, any permit issued should be structured with the goal of improving the quality of the receiving waters, which we feel the original NPDES permit as issued would do. Therefore we feel that ExxonMobil should be held to the standards of that permit, as issued, and the requested modifications of that permit should be denied.**

### *Response:*

It is difficult for the Region to respond with specificity to the comment because the commenter does not substantiate its claim that the permit modification will lead to a decline in Mystic River water quality, or otherwise set forth any factual basis for the assertion, or provide any other indication of how the permit modification might possibly lead to adverse water quality impacts. The commenter also does not explain why it prefers the permit as originally proposed—the contested portions of which have already been withdrawn, in 2009—over the alternative of the permit modification. The Region is therefore unclear what specific aspects of the permit modification the commenter finds objectionable, and why.

The Region respectfully disagrees with the opinion that the permit modification will lead to a decline in the water quality of the Mystic River. The Region is not aware of any aspect of the permit modification that would lead to a decline in receiving water quality. In the Region's judgment, the opposite is true: the modification enhances the permit's overall water quality benefit while ensuring compliance with applicable water quality- and technology-based requirements. The combination of new and modified treatment facilities, as well as ongoing maintenance and operations efforts, under the

permit modification will result in continued benefits and improvements to the Island End River and the Mystic River Watershed area, as described below.

The permit modification was primarily designed to address the problem of infiltration and discharge of contaminated groundwater through the stormwater collection and treatment system, but takes a more prescriptive approach than the withdrawn conditions. The Region believes the permit modification addresses the contaminated groundwater issue more effectively than the original conception, because it includes technological, operational, and implementation detail targeted to address the problem significantly beyond that of the original permit. These detailed permitting requirements provide the Region with additional assurance that the groundwater infiltration issue is being effectively addressed. Additionally, the requirements ensure that the stormwater collection and treatment system is operated in a manner that achieves better overall effluent quality than contemplated by the original permit.

Under the modification, the new and modified facilities are required to address stormwater flows, infiltrating groundwater and other permitted discharges, under a variety of flow scenarios, which vary widely at the 110 acre site. This final permit modification requires a comprehensive system that provides treatment of effluent before discharge in all but the most extreme storm events exceeding the 10-year, 24 hour design storm event calculated at 13,600 gpm. The combined system provides continuous treatment of flows up to 280 gpm (over 12 million gallons per month) through sand filters and activated carbon. In order to meet the permit modification requirements, ExxonMobil has also modified its existing facilities to provide 2.1 million gallons of storage capacity to contain significant flows generated by most storm events. This will result in very infrequent discharges through Outfall 01B, known as bypass events. Indeed, since the storage modifications were completed in September 2010, there has not been a single discharge through Outfall 01B.

In addition, during the period between 2009 and June 2011, ExxonMobil, under the terms of the MOU, was required to conduct significant maintenance of its storm sewer system which included cleaning and inspecting over 150 vertical drainage structures and mapping over 5 miles of on-site piping. Repairs were made to over 50 vertical structures to reduce the infiltration of contaminated groundwater in those structures. Annual inspections and modifications to the storm drain system continue, along with investigations of potential groundwater contamination source areas. ExxonMobil's NPDES permit requires on-going operation and maintenance programs, including enhanced sediment control, which also contribute to improved water quality in its discharge.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

TABLE OF CONTENTS

A. GENERAL CONDITIONS	Page
1. <u>Duty to Comply</u>	2
2. <u>Permit Actions</u>	2
3. <u>Duty to Provide Information</u>	2
4. <u>Reopener Clause</u>	3
5. <u>Oil and Hazardous Substance Liability</u>	3
6. <u>Property Rights</u>	3
7. <u>Confidentiality of Information</u>	3
8. <u>Duty to Reapply</u>	4
9. <u>State Authorities</u>	4
10. <u>Other laws</u>	4
B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS	
1. <u>Proper Operation and Maintenance</u>	4
2. <u>Need to Halt or Reduce Not a Defense</u>	4
3. <u>Duty to Mitigate</u>	4
4. <u>Bypass</u>	4
5. <u>Upset</u>	5
C. MONITORING AND RECORDS	
1. <u>Monitoring and Records</u>	6
2. <u>Inspection and Entry</u>	7
D. REPORTING REQUIREMENTS	
1. <u>Reporting Requirements</u>	7
a. Planned changes	7
b. Anticipated noncompliance	7
c. Transfers	7
d. Monitoring reports	8
e. Twenty-four hour reporting	8
f. Compliance schedules	9
g. Other noncompliance	9
h. Other information	9
2. <u>Signatory Requirement</u>	9
3. <u>Availability of Reports</u>	9
E. DEFINITIONS AND ABBREVIATIONS	
1. <u>Definitions for Individual NPDES Permits including Storm Water Requirements</u>	9
2. <u>Definitions for NPDES Permit Sludge Use and Disposal Requirements</u>	17
3. <u>Commonly Used Abbreviations</u>	23

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

## PART II. A. GENERAL REQUIREMENTS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed \$25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.
- c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

Note: See 40 CFR §122.41(a)(2) for complete "Duty to Comply" regulations.

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notifications of planned changes or anticipated noncompliance does not stay any permit condition.

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.



## NPDES PART II STANDARD CONDITIONS

(January, 2007)

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §122.62, 122.63, 122.64, and 124.5.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

- a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).
- b. Claims of confidentiality for the following information will be denied:
  - (1) The name and address of any permit applicant or permittee;
  - (2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).
- c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

8. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Administrator. (The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, or local laws and regulations.

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

- (1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

- (2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (Twenty-four hour reporting).

d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

- (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
- (3)
  - i) The permittee submitted notices as required under Paragraph 4.c. of this section.
  - ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

5. Upset

- a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
  - (4) The permittee complied with any remedial measures required under B.3. above.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

## PART II. C. MONITORING REQUIREMENTS

1. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Except for records for monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.
- c. Records of monitoring information shall include:
  - (1) The date, exact place, and time of sampling or measurements;
  - (2) The individual(s) who performed the sampling or measurements;
  - (3) The date(s) analyses were performed;
  - (4) The individual(s) who performed the analyses;
  - (5) The analytical techniques or methods used; and
  - (6) The results of such analyses.
- d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.
- e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

## 2. Inspection and Entry

The permittee shall allow the Regional Administrator or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

## PART II. D. REPORTING REQUIREMENTS

### 1. Reporting Requirements

- a. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:
  - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or
  - (2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
  - (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Anticipated noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

- d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
  - (2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
  - (3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- e. Twenty-four hour reporting.
- (1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.
- A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- (2) The following shall be included as information which must be reported within 24 hours under this paragraph.
    - (a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
    - (b) Any upset which exceeds any effluent limitation in the permit.
    - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)
  - (3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

- f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
  - g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.
  - h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.
2. Signatory Requirement
- a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)
  - b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.
3. Availability of Reports.

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

## PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

*Administrator* means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

*Applicable standards and limitations* means all, State, interstate, and Federal standards and limitations to which a “discharge”, a “sewage sludge use or disposal practice”, or a related activity is subject to, including “effluent limitations”, water quality standards, standards of performance, toxic effluent standards or prohibitions, “best management practices”, pretreatment standards, and “standards for sewage sludge use and disposal” under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

*Application* means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in “approved States”, including any approved modifications or revisions.

*Average* means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

*Average monthly discharge limitation* means the highest allowable average of “daily discharges” over a calendar month calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

*Average weekly discharge limitation* means the highest allowable average of “daily discharges” measured during the calendar week divided by the number of “daily discharges” measured during the week.

*Best Management Practices (BMPs)* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

*Best Professional Judgment (BPJ)* means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

*Coal Pile Runoff* means the rainfall runoff from or through any coal storage pile.

*Composite Sample* means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

*Construction Activities* - The following definitions apply to construction activities:

- (a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
- (b) Dedicated portable asphalt plant is a portable asphalt plant located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR Part 443.
- (c) Dedicated portable concrete plant is a portable concrete plant located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.



## NPDES PART II STANDARD CONDITIONS

(January, 2007)

- (d) Final Stabilization means that all soil disturbing activities at the site have been complete, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
- (e) Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff.

*Contiguous zone* means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

*Continuous discharge* means a “discharge” which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

*Daily Discharge* means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

*Director* normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires.

*Discharge Monitoring Report Form (DMR)* means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by “approved States” as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA’s.

*Discharge of a pollutant* means:

- (a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source”, or
- (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See “Point Source” definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works.

This term does not include an addition of pollutants by any “indirect discharger.”

*Effluent limitation* means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of “pollutants” which are “discharged” from “point sources” into “waters of the United States”, the waters of the “contiguous zone”, or the ocean.

*Effluent limitation guidelines* means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise “effluent limitations”.

*EPA* means the United States “Environmental Protection Agency”.

*Flow-weighted composite sample* means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

*Grab Sample* – An individual sample collected in a period of less than 15 minutes.

*Hazardous Substance* means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

*Indirect Discharger* means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

*Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (b) Therefore is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act (CWA), the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection Research and Sanctuaries Act.

*Landfill* means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

*Land application unit* means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

*Large and Medium municipal separate storm sewer system* means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and 40 CFR Part 122); or (ii) located in the counties with unincorporated urbanized

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR 122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

*Maximum daily discharge limitation* means the highest allowable “daily discharge” concentration that occurs only during a normal day (24-hour duration).

*Maximum daily discharge limitation (as defined for the Steam Electric Power Plants only) when applied to Total Residual Chlorine (TRC) or Total Residual Oxidant (TRO)* is defined as “maximum concentration” or “Instantaneous Maximum Concentration” during the two hours of a chlorination cycle (or fraction thereof) prescribed in the Steam Electric Guidelines, 40 CFR Part 423. These three synonymous terms all mean “a value that shall not be exceeded” during the two-hour chlorination cycle. This interpretation differs from the specified NPDES Permit requirement, 40 CFR § 122.2, where the two terms of “Maximum Daily Discharge” and “Average Daily Discharge” concentrations are specifically limited to the daily (24-hour duration) values.

*Municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

*National Pollutant Discharge Elimination System* means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an “approved program”.

*New Discharger* means any building, structure, facility, or installation:

- (a) From which there is or may be a “discharge of pollutants”;
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source”; and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site”.

This definition includes an “indirect discharger” which commences discharging into “waters of the United States” after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a “site” for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a “site” under EPA’s permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a “new discharger” only for the duration of its discharge in an area of biological concern.

*New source* means any building, structure, facility, or installation from which there is or may be a “discharge of pollutants”, the construction of which commenced:

- (a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

*NPDES* means “National Pollutant Discharge Elimination System”.

*Owner or operator* means the owner or operator of any “facility or activity” subject to regulation under the NPDES programs.

*Pass through* means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation).

*Permit* means an authorization, license, or equivalent control document issued by EPA or an “approved” State.

*Person* means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

*Point Source* means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

*Pollutant* means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

- (a) Sewage from vessels; or
- (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

*Primary industry category* means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

*Privately owned treatment works* means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

*Process wastewater* means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

*Publicly Owned Treatment Works (POTW)* means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality".

This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

*Regional Administrator* means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

*Secondary Industry Category* means any industry which is not a "primary industry category".

*Section 313 water priority chemical* means a chemical or chemical category which:

- (1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);
- (2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and
- (3) satisfies at least one of the following criteria:
  - (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
  - (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
  - (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

*Septage* means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

*Sewage Sludge* means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

*Sewage sludge use or disposal practice* means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

*Significant materials* includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

*Significant spills* includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

*Sludge-only facility* means any “treatment works treating domestic sewage” whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

*State* means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

*Storm Water* means storm water runoff, snow melt runoff, and surface runoff and drainage.

*Storm water discharge associated with industrial activity* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. (See 40 CFR §122.26 (b)(14) for specifics of this definition.

*Time-weighted composite* means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

*Toxic pollutants* means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of “sludge use or disposal practices” any pollutant identified in regulations implementing Section 405(d) of the CWA.

*Treatment works treating domestic sewage* means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, “domestic sewage” includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a “treatment works treating domestic sewage”, where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

*Waste Pile* means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

*Waters of the United States* means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;
- (b) All interstate waters, including interstate "wetlands";
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;
  - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

*Wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

*Whole Effluent Toxicity (WET)* means the aggregate toxic effect of an effluent measured directly by a toxicity test. (See Abbreviations Section, following, for additional information.)

## 2. Definitions for NPDES Permit Sludge Use and Disposal Requirements.

*Active sewage sludge unit* is a sewage sludge unit that has not closed.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

*Aerobic Digestion* is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

*Agricultural Land* is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

*Agronomic rate* is the whole sludge application rate (dry weight basis) designed:

- (1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- (2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

*Air pollution control device* is one or more processes used to treat the exit gas from a sewage sludge incinerator stack.

*Anaerobic digestion* is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

*Annual pollutant loading rate* is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.

*Annual whole sludge application rate* is the maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period.

*Apply sewage sludge or sewage sludge applied to the land* means land application of sewage sludge.

*Aquifer* is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.

*Auxiliary fuel* is fuel used to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of the sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel.

*Base flood* is a flood that has a one percent chance of occurring in any given year (i.e. a flood with a magnitude equaled once in 100 years).

*Bulk sewage sludge* is sewage sludge that is not sold or given away in a bag or other container for application to the land.

*Contaminate an aquifer* means to introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR §141.11 to be exceeded in ground water or that causes the existing concentration of nitrate in the ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR §141.11.

*Class I sludge management facility* is any publicly owned treatment works (POTW), as defined in 40 CFR §501.2, required to have an approved pretreatment program under 40 CFR §403.8 (a) (including any POTW located in a state that has elected to assume local program responsibilities pursuant to 40 CFR §403.10 (e) and any treatment works treating domestic sewage, as defined in 40 CFR § 122.2,



## NPDES PART II STANDARD CONDITIONS

(January, 2007)

classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved state programs, the Regional Administrator in conjunction with the State Director, because of the potential for sewage sludge use or disposal practice to affect public health and the environment adversely.

*Control efficiency* is the mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator.

*Cover* is soil or other material used to cover sewage sludge placed on an active sewage sludge unit.

*Cover crop* is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

*Cumulative pollutant loading rate* is the maximum amount of inorganic pollutant that can be applied to an area of land.

*Density of microorganisms* is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.

*Dispersion factor* is the ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack.

*Displacement* is the relative movement of any two sides of a fault measured in any direction.

*Domestic septage* is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

*Domestic sewage* is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

*Dry weight basis* means calculated on the basis of having been dried at 105 degrees Celsius (°C) until reaching a constant mass (i.e. essentially 100 percent solids content).

*Fault* is a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to the strata on the other side.

*Feed crops* are crops produced primarily for consumption by animals.

*Fiber crops* are crops such as flax and cotton.

*Final cover* is the last layer of soil or other material placed on a sewage sludge unit at closure.

*Fluidized bed incinerator* is an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

*Food crops* are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

*Forest* is a tract of land thick with trees and underbrush.

*Ground water* is water below the land surface in the saturated zone.

*Holocene time* is the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.

*Hourly average* is the arithmetic mean of all the measurements taken during an hour. At least two measurements must be taken during the hour.

*Incineration* is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

*Industrial wastewater* is wastewater generated in a commercial or industrial process.

*Land application* is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

*Land with a high potential for public exposure* is land that the public uses frequently. This includes, but is not limited to, a public contact site and reclamation site located in a populated area (e.g., a construction site located in a city).

*Land with low potential for public exposure* is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).

*Leachate collection system* is a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit.

*Liner* is soil or synthetic material that has a hydraulic conductivity of  $1 \times 10^{-7}$  centimeters per second or less.

*Lower explosive limit for methane gas* is the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.

*Monthly average (Incineration)* is the arithmetic mean of the hourly averages for the hours a sewage sludge incinerator operates during the month.

*Monthly average (Land Application)* is the arithmetic mean of all measurements taken during the month.

*Municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

*Other container* is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

*Pasture* is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

*Pathogenic organisms* are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

*Permitting authority* is either EPA or a State with an EPA-approved sludge management program.

*Person* is an individual, association, partnership, corporation, municipality, State or Federal Agency, or an agent or employee thereof.

*Person who prepares sewage sludge* is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

*pH* means the logarithm of the reciprocal of the hydrogen ion concentration; a measure of the acidity or alkalinity of a liquid or solid material.

*Place sewage sludge or sewage sludge placed* means disposal of sewage sludge on a surface disposal site.

*Pollutant (as defined in sludge disposal requirements)* is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or physical deformations in either organisms or offspring of the organisms.

*Pollutant limit (for sludge disposal requirements)* is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of pollutant that can be applied to a unit of land (e.g., kilograms per hectare); or the volume of the material that can be applied to the land (e.g., gallons per acre).

*Public contact site* is a land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

*Qualified ground water scientist* is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.

*Range land* is open land with indigenous vegetation.

*Reclamation site* is drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites.

## NPDES PART II STANDARD CONDITIONS

(January, 2007)

*Risk specific concentration* is the allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of a site where the sewage sludge incinerator is located.

*Runoff* is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off the land surface.

*Seismic impact zone* is an area that has 10 percent or greater probability that the horizontal ground level acceleration to the rock in the area exceeds 0.10 gravity once in 250 years.

*Sewage sludge* is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to: domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in treatment works.

*Sewage sludge feed rate* is either the average daily amount of sewage sludge fired in all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located for the number of days in a 365 day period that each sewage sludge incinerator operates, or the average daily design capacity for all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located.

*Sewage sludge incinerator* is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

*Sewage sludge unit* is land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 CFR §122.2.

*Sewage sludge unit boundary* is the outermost perimeter of an active sewage sludge unit.

*Specific oxygen uptake rate (SOUR)* is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in sewage sludge.

*Stack height* is the difference between the elevation of the top of a sewage sludge incinerator stack and the elevation of the ground at the base of the stack when the difference is equal to or less than 65 meters. When the difference is greater than 65 meters, stack height is the creditable stack height determined in accordance with 40 CFR §51.100 (ii).

*State* is one of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and an Indian tribe eligible for treatment as a State pursuant to regulations promulgated under the authority of section 518(e) of the CWA.

*Store or storage of sewage sludge* is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

*Surface disposal site* is an area of land that contains one or more active sewage sludge units.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

*Total hydrocarbons* means the organic compounds in the exit gas from a sewage sludge incinerator stack measured using a flame ionization detection instrument referenced to propane.

*Total solids* are the materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 degrees Celsius.

*Treat or treatment of sewage sludge* is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge.

*Treatment works* is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

*Unstable area* is land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement.

*Unstabilized solids* are organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

*Vector attraction* is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

*Volatile solids* is the amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 degrees Celsius in the presence of excess air.

*Wet electrostatic precipitator* is an air pollution control device that uses both electrical forces and water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

*Wet scrubber* is an air pollution control device that uses water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

### 3. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl <sub>2</sub>	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)

**NPDES PART II STANDARD CONDITIONS**  
(January, 2007)

TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M <sup>3</sup> /day	Cubic meters per day
DO	Dissolved oxygen
kg/day	Kilograms per day
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
ml/l	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH <sub>3</sub> -N	Ammonia nitrogen as nitrogen
NO <sub>3</sub> -N	Nitrate as nitrogen
NO <sub>2</sub> -N	Nitrite as nitrogen
NO <sub>3</sub> -NO <sub>2</sub>	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
ug/l	Microgram(s) per liter
WET	“Whole effluent toxicity” is the total effect of an effluent measured directly with a toxicity test.
C-NOEC	“Chronic (Long-term Exposure Test) – No Observed Effect Concentration”. The highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.
A-NOEC	“Acute (Short-term Exposure Test) – No Observed Effect Concentration” (see C-NOEC definition).
LC <sub>50</sub>	LC <sub>50</sub> is the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC <sub>50</sub> = 100% is defined as a sample of undiluted effluent.
ZID	Zone of Initial Dilution means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports.